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Reflections on Electricity, Modernization, & Identity in the New South

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REFLECTIONS ON ELECTRICITY, MODERNIZATION, & IDENTITY IN THE NEW SOUTH

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ABSTRACT

This thesis explores the relationship between the rhetoric of Southern reformers and the technology being adopted across South Carolina and Georgia at the end of the 19th century. The ideology of the New South, one that juxtaposed modern industry and old traditions, was fundamentally shortsighted in its failure to recognize how new technology would alter Southern institutions. Electric lights and power were widely viewed as neutral tools the South could employ to compete with Northern critics and achieve widespread hopes for modern prosperity. Because of this understanding of technology, one that is epitomized in the fanfare and optimism of the Chicago and Atlanta world's fairs, Southern reformers were sanguine about employing electricity in mills and towns throughout the South without consideration for the cultural costs. By examining the language of the participants (New South boosters and industrialists) we might understand how and why, in a region and period painted as being acutely concerned with preserving cultural institutions, the changes in Southern life that technology would bring went largely unanticipated. To accomplish this, this study focuses primarily on the technological developments associated with the textile industry in the South Carolina upstate.

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On Technology History

Reflections on the history of technology often begin in similar fashion. There are frequent, sometimes frustrated, acknowledgements of the meager condition of the field. In the canon of electricity history, two notables (David E. Nye and Thomas Hughes) conspicuously quote Paul Valéry, via Marc Bloch's *The Historian's Craft*.

> In reproaching "traditional history," Paul Valéry has cited "the conquest of the earth by electricity" as an example of one of those "notable phenomena" which it neglects, despite the fact that they have "more meaning and greater possibilities of shaping our immediate future than all the political events combined."[1]

Since Paul Valéry's day, there have been many who have attempted to map the effects of revolutionary technologies on history. Herculean monographs like Thomas Hughes' *Networks of Power: Electrification in Western Society, 1880-1930* have answered Valéry's challenge and reconciled the myriad historical forces at work in the story of electric power: intellectual, political, economic, and social. Hughes even succeeds in elucidating the similarities and differences between American electrification and the experiences of Germany and England.

Technological *systems* such as the national electric grid, the rail transportation network, the Internet, and the like are complex historical entities. Telling their stories requires telling the stories of inventors, corporations, and cultures. And as

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[1] Marc Bloch, *The Historian's Craft* (New York: Random House, 1953), 55.

successful as historians have been over the past few decades, social understanding of technology, its diffusion, and its consequences remains elusive. Langdon Winner revitalizes Valéry's consternation. Now that historians have a mind to examine technology more closely than has been attempted previously, what we now need is *philosophy*. He writes,

> At this late date in the development of our industrial/technological civilization the most accurate observation to be made about the philosophy of technology is that there really isn't one…. For despite the fact that nobody would deny its importance to an adequate understanding of the human condition, technology has never joined epistemology, metaphysics, esthetics, law, science, and politics as a fully respectable topic for philosophical inquiry.[2]

According to Winner, technology lacks a Copernicus or a Darwin to offer some universal law, some governing principle with which to tackle the question; how does technology *work* in history? Even its academic neighbor, history and philosophy of science, has a store of good ideas, of *structure*, in the work of Thomas Kuhn. Technology studies lack a firm philosophical foundation. What this means for the history of technology is that it must constantly readdress old assumptions about how technology and societies interact. Historians approaching this problem often attempt to cobble Marx, trends in economic and political history, and growing concerns with regionalism into coherence. Many succeed valiantly. Underrepresented among these are efforts to understand how cultures perceive technology, and how they incorporate it into society alongside preexisting traditions and values.

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[2] Langdon Winner, "Technologies as Forms of Life," In *Readings in the Philosophy of Technology.* Ed. by David M. Kaplan (Oxford: Rowman & Littlefield, 2004), 103.

On Electricity and Culture

Opinions on the efficacy of technology within a culture vary. Lynn White famously attributed the spread of feudalism in medieval France to the stirrup. Others have less ambitiously argued that cotton gins and automobiles are responsible for changes in American culture, and few would bristle at these claims. Technology *does things* to the society into which it is introduced. Perhaps it erodes old traditions or mandates new political legislation, but regardless of the scope of the change, we take for granted that technology brings cultural shifts with it into history.

This study is concerned with the spread of new technologies within a culturally distinct region of the United States, within a historically distinct period of American history. More fundamentally, it is an attempt to emphasize the relevance of culture in understanding technological progress. David Nye, a pioneer in explaining electricity's transformative power over American culture, writes,

> A technology is not merely a machine with certain functions; it is part of a social world. Electrification is not an implacable force moving through history, but a social process that varies from one time period to another and from one culture to another. In the United States electrification was not a "thing"; rather it was an internal development shaped by its social context. Put another way, each technology is an extension of human lives: someone makes it, someone owns it, some oppose it, many use it, and all interpret it.[3]

Nye goes on to characterize the growth of the electric grid as a manifestation of American culture in the late 19th century. New York, Chicago, Muncie, Indiana - these

[3] David E. Nye, *Electrifying America: Social Meanings of a New Technology* (Cambridge: MIT Press, 1991), ix.

cities lit themselves based on the mores and aesthetics of a rapidly modernizing America. Culture is responsible for the way electricity emerges. Electricity is responsible for changes in American identity. Describing these shifts is an important undertaking for historians, but what is of greatest concern here is whether New South reformers expressed any concern for the cultural changes that technology brought to Southern life.

The Electrified South

Electrification is widely depicted as a national process. Small distinctions are sometimes drawn between the ways Northern and Southern electric power progressed in the late 19th and early 20th centuries. First among these is speed. Clearly, because of a diversity of factors, the South modernized more slowly than the North. Other differences include the role of private utilities versus that of municipal power providers. These variances are often trivialized as being easily attributable to economic differences between the industrialized North and the agricultural, war-ravaged South, but armed with strategies for evaluating technological change in light of distinct, cultural features, we can begin to suggest how the characteristics of Southern electrification are connected to the characteristics of Southern culture.

South Carolina had no Broadway. The Atlanta Cotton Exposition was no White City. Instead, the technological choices being made in South Carolina and Georgia

(and they were choices) were made within a regionally distinct, historically potent Southern society. Years of Southern cultural history reflecting on the century following the Civil War have left an implacable impression that the South is different. The 1890s serve Southern history icons as a crucible for Southern identity into the 20th century. C. Vann Woodward reflects on this time as fostering the racial antagonism that would come to define the South. Wilbur J. Cash sees this as a time when Southern culture became insistent and self-aware in the form of the New South and Lost Cause rhetoric. This epoch that saw, according to many, the clearest expression of the South in contrast to the rest of the nation, was also the period when electric light and power made its first forays into a region jeered at for its backwardness and economic stagnation. As lights were being installed throughout Chicago, Philadelphia, and New York, towns of a few thousand people across the South Carolina upstate were enjoying many of the same benefits (i.e. illumination, electric transit). The mistake is to assume that they perceived these new technologies in the same way. Charles Reagan Wilson writes,

> Embodying the dream of Southerners for a separate political identity, the Confederacy was defeated by Father Abraham and an apparently more blessed, as well as more self-righteous, Redeemer Nation. But the dream of a separate Southern identity did not die in 1865. A Southern political nation was not to be, and the people of Dixie came to accept that; but the dream of a cohesive Southern people with a separate cultural identity replaced the original longing. The cultural dream replaced the political dream: the South's kingdom was to be of culture, not of politics.[4]

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[4] Charles R. Wilson, *Baptized in Blood: The Religion of the Lost Cause, 1865-1920* (Athens: University of Georgia Press, 1980), 1.

If we accept the provocative notion that technology and culture shape one another *and* that the South possessed a unique cultural identity in the decades straddling the dawn of the 20th century, then the story of electrification needs revisiting. New South boosters did not consider technology a threat to cultural continuity in the South. Southern life was never considered a potential casualty in the push towards modernity.

This study examines regions in South Carolina and Georgia where electricity, in the form of mill turbines, lights, and streetcars, made an early appearance and had an important relationship to 19th century Southern culture. Alongside monuments that were meant to protect the legacy of the Confederate dead, mills and power stations were built and began shaping Southern life and traditions. How did New South boosters perceive technological change? What did they believe a modern South would look like? Insight can be distilled from the record and these questions answered; Southern reformers did not think the widespread modernization of mills and towns across the South would disrupt Southern culture. Technology was seen as a neutral component in the vision for a modern South that protected its old legacy. This mistake would dramatically influence the American South into the 20th century.

II. Background - *A Great, Southern Exhibition*

The world's fairs of the 19th century were marvels of design and architecture, and though visitors could tour recreated Roman ruins or Egyptian pleasure barges, history was of lesser interest than the awe-inspiring, technological wonders of the times. The fairs and expositions celebrated *the new* and more importantly, showcased the radical power these contrivances possessed to deliver Americans from their slow, painful, labor-intensive past. Nothing seemed impossible or our-of-reach under the lights of the Chicago or Paris midways, and the hope vested in new technology was palpable. Optimism, spectacle, progress - these were strange intruders into Southern culture after years of defeat and depression. The odd juxtaposition offered by a *Southern* world's fair is notable. How did a traditional society, one in which memories ran deep, reconcile itself to this new faith in technology? It is remarkable that no concern arose, in the stark dichotomy presented by exposition exhibits, for the ways technology might upset a treasured cultural legacy.

In September 1895 the Cotton States and International Exposition opened its gates to the public. The business leaders of Atlanta had raised much of the two million dollars in capital needed to transform Piedmont Park into a lavish

fairground, one to rival Chicago's White City, "quality and not quantity being considered" according to Georgia's governor, W. Y. Atkinson.[5] There had been other expositions of varying scale held in the South since the end of Reconstruction, and all had expressed a desire to showcase Southern progress to the world. Most notably, the World Cotton Centennial of 1884 had taken place in New Orleans only to prove a catastrophic financial failure. Amidst widespread accusations of political corruption and the misappropriation of state funds, the fair had been forced to close prematurely in June 1885. Louisville, Kentucky was, for a few months in 1883, the brightest city on earth, having commissioned Thomas Edison to provide 4,600 incandescent light bulbs for its own Southern Exposition.[6] Even Atlanta, in 1881, had staged an earlier Cotton Exposition, though Northern investors committed the bulk of the resources and the sum represented only a small fraction of what the city had planned for 1895. In 1895, *the South* was on stage once again.[7]

The 1895 fair would be the first American exposition of any real scale held since the gates of Chicago's 1893 Columbian Exposition had closed, a fair that had permanently altered American hopes and expectations. The planners and architects of the White City had, amidst a national financial panic and ensuing depression, erected a utopia of plaster and light. The "City" itself was ephemeral, lasting only a

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[5] W. Y. Atkinson, "The Atlanta Exposition," *The North American Review* 161 (October 1895), 386.
[6] Nye, 3.
[7] Thomas H. Martin, *Atlanta and Its Builders: A Comprehensive History of the Gate City of the South* (Atlanta: Century Memorial Publishing Co., 1902), 463.

few months after the fair had closed and leaving an empty lakeshore where in October of 1893, over 700,000 people had gathered on a single day to pay tribute to the city and American progress. By the time they shut the electric lights off for the final time, the millions of Americans who had visited the fair were acutely aware that the world *looked different* without the soft, steady light provided by the new incandescent bulbs. It was dusky and backwards. The sense of assurance was strong; America would not be dark for long. Profound changes were in store and were welcomed with hope and optimism. Wrote one Southerner in the closing days of the Chicago fair,

> The ages have names, historic and prehistoric. There are the stone age, the bronze age, the iron age, the golden age and the dark ages, but the age in which we live may well be called the age of invention. Never before in the history of the world has there been such an era of wonderful inventions and contrivances for the use and comfort and convenience of mankind.[8]

Convenience would come with a cost, but for a nation caught the aftermath of a financial panic, new inventions offered alluring possibilities.

Chicago culminated a half-century of world's fairs and exhibitions, bellwethers of American hopes at the end of the 19th century. It may be simplistic to suggest that these hopes were ubiquitous, but the rapid and dramatic series of technological innovations that would quickly come to transform the daily lives of Americans provided a captivating example. To Northerners and Southerners, they were evidence of a trend that would push the boundaries of imagination and

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[8] Anderson *Intelligencer*, September 27, 1893.

prosperity in the United States. Visions of the fantastical future that awaited were plentiful. In a letter to Walt Whitman, congratulating him on his 70th birthday, Mark Twain recollects the remarkable things that had unfolded in the seventy years of Whitman's life in America.

> What great births you have witnessed! The steam press, the steamship, the steel ship, the railroad, the perfected cotton-gin, the telegraph, the phonograph, the photograph, photo-gravure, the electrotype, the gaslight, the electric light, the sewing machine, & the amazing, infinitely varied & innumerable products of coal tar (….) Yes, you have indeed seen much — but tarry yet a while, for the greatest is yet to come. Wait thirty years, & then look out over the earth! You shall see marvels upon marvels added to these whose nativity you have witnessed; & conspicuous above them you shall see their formidable Result - Man at almost his full stature at last![9]

The speed of technological progress established a powerful precedent for many Americans. The culmination of human history was heralded to be near at hand. This faith was fueled by those revolutionary technologies that were featured so prominently in Twain's reminisces, things that visitors to the Philadelphia Centennial Exposition (1876) or another grand American or European fair would, at first, not have believed were possible.

In 1876, the central attraction of the Philadelphia Exposition had been a towering rotary steam engine built by G. Henry Corliss. It formed the beating heart of the fair, powering all of the other exhibits and attracting worldwide attention, a testament to a technological dawn, one divorced from human toil. Where steam had captured imaginations in 1876, by 1893 it was the electric dynamo. Exhibition halls were stuffed with the most promising, most provocative designs of prominent

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[9] Mark Twain, Letter to Walt Whitman (Hartford: May 24, 1889).

engineers and inventors like Thomas Edison and George Westinghouse. A Charleston newspaper touted the mysterious power of Mr. Edison, claiming that he was "one of the few poker players who invariably win. His opponents accuse him of possessing the power to see through cards."[10] In Chicago, entrancing electrical demonstrations were organized by the sorcerous Nikola Tesla, whose patents lit the Chicago fair as well generated the requisite current.

The speed of technological progress combined with the profound changes in lifestyle and convenience led, in many parts of the country, to an ideology that distrusted the past. Traditional patterns in art and architecture were out of place in a world of art nouveau electroliers, arc-lit streets, and in light of the new understanding that mankind's conquest of nature was quickly approaching completion. Even electricity itself had evolved from something alchemical, the mysterious, vivifying force of Walt Whitman's understanding, into something malleable, a tool destined for human use. Likewise, political and social reordering of American society was reaching a feverish pace as well. The moral framework that had permitted the abuses of power, corruption, and corporate hegemony of the late 19th century was being openly, sometimes violently, questioned. Populist and Progressive reformers pushed for economic changes on behalf of consumers, labor, and growing constituencies in the West. America seemed suddenly too large, while its wealth and power were jealously guarded by corporations and politicians far

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[10] Charleston *News & Courier*, May 3, 1895.

from the dark streets of Ben Tillman's Edgefield County or Edward Bellamy's Chicopee Falls. In *Looking Backward* (1888), Bellamy's protagonist Julian West reflects in the utopian-year 2000 that "if you would see men again the beasts of prey they seemed in the nineteenth century, all you have to do is to restore the old social and industrial system, which taught them to view their natural prey in their fellow men, and to find their gain in the loss of others."[11] Technology, though a seductive example of progress and hope, had outstripped 19th century institutions. American politics, economics, and social relationships had to sprint to catch up.

Another feature of the quarter century following the end of Reconstruction was stagnation and political disempowerment for America's small communities. Resources and authority were increasingly being anchored in large Northern cities. Though large-scale corruption took place far from small towns and rural communities, this did not reduce the sting of economic downturns and corporate abuses. Robert Wiebe writes of the realization within small communities that local authority was being usurped and the resulting Populist backlash.

> The sweep of reform represented by these movements sought to preserve individualism and democracy, as their adherents understood the terms, by protecting America's communities (….) Each proposal attempted to place power in the hands of small familiar groups under the dual assumptions that it had once resided there and that a good society required its return.[12]

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[11] Edward Bellamy, *Looking Backward, 2000-1887* (Boston: Ticknor & Company, 1888), 166.
[12] Robert Wiebe, *The Search for Order, 1877-1920* (New York: Hill & Wang, 1967), 74.

It would be a mistake to view this process, in the South or anywhere for that matter, as being a reversion to tradition or a rejection of technological advances. The fruits of the modern factory, the telephone, electric interurban transit, and electric lights were too beguiling to suggest that they might be contributing to the strains of progress. Wiebe goes on to say,

> They simply saw no conflict between popular control and modern technology, and they fully anticipated all the advantages of Bellamy's utopia in the cooperative commonwealth of tomorrow. What they did reject were the current means of America's industrialization - the corporations, the systems of credit and distribution, the alterations of political power. In trying to destroy the lot of them, they planned a revolution without quite realizing it and, as it happened, lost at every turn.[13]

Changes in American technology dictated changes in American society, but in the South, where electric utilities lit small mill towns and installed electric rails, the process of modernization was cheerfully promoted, with no concern paid to the adverse impact new technology might have within Southern culture..

Putting on an impressive show in Atlanta was paramount. In 1895, New York, Chicago, and Philadelphia all contained more than a million people. Inside two decades, the size of New York would triple. When Atlanta began to plan and raise capital for its International Cotton Exposition, it had fewer than 80,000 residents.[14] Emphasized in the fair's trade displays was the hope for increased commerce between the South and Latin American nations, a theme that would be continued

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[13] Wiebe, 75.
[14] "Table 12: Population of the 100 Largest Urban Places, 1890," U. S. Census Bureau, Internet Release Date June 15, 1998, http://www.census.gov/population/www/documentation/twps0027/tab12.txt.

upon at the Charleston Expo in 1901, but at the forefront of Southern minds was the need to showcase the South's economic and cultural strength, thirty-one short years after Sherman had marched through Georgia and South Carolina.[15] At the national centennial celebration in Philadelphia, the Southern states had made a poor showing. Years of Reconstruction governance had left little resources available for ostentation. A black Congressman from Florida, Josiah T. Walls, had expressed his hopes for the Philadelphia Exhibition. Philip Foner writes,

> He (Walls) argued that the Centennial would bring the nation together for the first time since the Civil War, and "discourage and extinguish all feelings of sectionalism," Moreover it would help eliminate the "remaining bitterness" still rankling in the breasts of those Southern "irreconcilables" who regretted the abolition of slavery, and refused to accept Negroes as full-fledged American citizens (….) And none would "hail the glorious old banner - the Stars and Stripes - with more joy than the men of the South."[16]

Walls's idealism bears all the more irony because, on May 10, 1876, Philadelphia police denied grey-haired Frederick Douglass access to the dais, "unable to conceive that a Negro - they used a more pejorative term - would be allowed entrance to this august company on this august occasion."[17] Upon reaching Southerners, Walls's words would have inspired more pejoratives. Not only were North/South relationships still tense following years of Reconstruction, but also, the national economy had taken a dramatic downturn in the early 1870s, causing many to question whether the expense of the celebration was appropriate. More naïve

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[15] Atkinson, 887-889.
[16] Philip S. Foner, "Black Participation in the Centennial of 1876," *Phylon* 39 (1978): 285.
[17] Foner, 283.

sentiments were expressed in the *Centennial Fair Guidebook for Southerners* under the title "An Important Question."

> At the very threshold an important question occurs that requires patient considering — a question that is asked probably in the South thousands of times a day - "Shall we go to the Centennial?" By this is meant really, "Shall the South *patronize* the International Exhibition?" With proper deference we would with emphasis respond - "By all means, whether or not your State has contributed money and material, let all go who can afford to do so, for it is *our* Centennial as well as the Centennial of the Northern people." We are a part of the Union.[18]

This message doubtlessly stung many across the South and would have been largely unrepresentative of Northern attitudes towards "irreconcilables." Few rural, small-town Southerners *could* afford the trip to Philadelphia. Many more refused to attend a celebration of a union they had, long ago, rejected. And those that did travel by circuitous rail lines, would have likely been unwelcome arrivals in the home of their conquerors.

At the 1893 Columbian Exposition in Chicago, many states contributed funds to erect their own buildings along the Midway. Redeemer politicians in many Southern states, reacting to the "prodigality" of Reconstruction leaders, according to Governor Atkinson of Georgia, "framed their new constitutions with such careful niggardliness that no appropriations could be made by any legislature, however liberal its views, except for the absolute necessities of administering the

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[18] *International Exhibition Guide for the Southern States* (Philadelphia & Raleigh: R. T. Fulghum, 1876).

government."[19] South Carolina, North Carolina, Georgia, Mississippi, Alabama and Tennessee offered no state funding for the erection of exhibition buildings of their own. Instead, exhibition guidebooks politely directed Southern visitors to, in the case of South Carolina, view examples of their local culture and industry "represented by private exhibitors in several of the departments."[20] Likewise, the industry of Georgia could be seen in the Agricultural or Manufacturing Buildings. Virginia's state building was a replica of Mount Vernon while the border state of Kentucky erected a Southern colonial manse with exhibits featuring the farming and processing of tobacco. But the conspicuous absence of many Southern states from a lineup that included lavish displays from the expanding western territories was noted by many. Many Southerners could see a slice of home in one of the more popular industrial exhibits, the cultivation and processing of cotton. Antebellum plantation agriculture was depicted, complete with field slaves in costume. Young visitors, who had only experienced slavery through the intermediary of history or, more likely, reminisces of elders who had survived the war, could see a theatrical portrayal of slave labor. They could hear old ballads and slave songs. Not far from these exhibits were staged anthropological spectacles: an Inuit fishing, Balinese belly dancers, a Viking ship.[21] In many ways, these attractions were more relevant to

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[19] Atkinson, 387.
[20] *Official Guide to the World's Columbian Exposition* (Chicago: The Columbian Guide Company, 1893), 160.
[21] *The Historical World's Columbian Exposition and Chicago Guide* (St. Louis: James H. Mason & Co., 1892), 268.

Northern and Midwestern tourists than the Old South display. It was a window, artificial and burlesque, into a culture that had vanished from the earth. Southerners saw their memories, arranged between dinosaur fossils and cave paintings, stuffed and stitched into something strange and foreign.

When Northern cities celebrated progress and prosperity, the South languished. When Northerners lauded reconciliation and racial acceptance (however sincerely), the South bristled and felt alienated. For Chicago exhibitors, three decades had been enough time to turn antebellum Southern life into a cultural curiosity, an obscure artifact. For many Northerners, this was as sterile and discontinuous from their own daily lives as Mesoamerican carvings or Spanish galleons. Southern pilgrims to the fair must have been struck by how strange it was to stand amidst visitors from New York or Philadelphia who could look upon the caricature of plantation life so dispassionately, who could find mild fascination in the technological contrivances that were placed beside this abusive and antiquated form of agriculture. They must have recognized how *their* relationship to the scene before them was different from that of the others. When, at dusk, the midway lights were turned on, it is hard to imagine that those differences disappeared. The caricature of Old South life was one of many reflections of the glaring disparity between North and South. Scathing judgments continued to be circulated by Northern travel writers who claimed that the South remained backwards, unwilling or unable to follow in the footsteps of the industrial Northeast. Answering this

challenge became a Southern obsession.

Technology was seen as the key to establishing a "New" South. Economic stagnation in the years following Reconstruction was just the sort of problem to which the Fairs' technological displays promised a swift and miraculous cure. The South could share the dream epitomized by the White City of 1893. A Southern newspaper reported in 1895, as Atlanta prepared for her own exposition,

> The thousands of Southern people who went to the World's Fair thought it a wonder, thought Chicago a great city, and most of them may have thought the Chicago people above the ordinary plane of humanity (….) How did the people of Chicago accomplish it all? By unanimity of action. By pulling together. Every city and town in the South can imitate Chicago. (….) If a town of 1,000 people wants a store or a factory, which is the best way to get it - let twenty or thirty work for the enterprise which will benefit all and the rest do nothing, or have all work for it?[22]

Towns across the South could use the new technology to remake a Southern nation, one "of culture, not of politics." Dynamos, lights, and streetcars could save the South from poverty, and the profound faith of New South boosters was that its culture could withstand the change. The rhetoric of the New South, of an ideology that valued notions of heritage and tradition, suggests that Southern economic leaders saw technology as a benign, neutral tool in the story of Southern modernization. The New South sought to transplant its principles governing community and race into a modern technological landscape. Success would be measured by how sincerely Southerners could hold to a belief in cultural continuity and how effectively Southern industry could compete in a national manufacturing economy. The White City set a high bar. In 1894, the *Intelligencer* reported,

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[22] Anderson *Intelligencer*, January 10, 1894.

> The Chicago fair is a good thing to think over (….) Atlanta people are thinking of it, and 1895 will show the brilliant conception of this thought. No the Chicago people are no higher, no brighter and have no more ability than the people of any Southern city. Pull together and see if this is not true.[23]

Attempting to graft new technology onto old Southern institutions would evolve into a community effort. Lighting and powering the South were local endeavors and investment in municipal services and infrastructure began to resemble a civic religion. The dogma was consistent throughout; technology, with all of its cultural volatility, was welcomed with open arms, and any inklings that it might upset the sacrosanct characteristics of Southern culture were kept silent. Robert Wiebe's picture is accurate. Technology was too beguiling, too pervasive to be a cause for concern. Because of this, the radical cultural changes that came with modernization were largely unanticipated.

The South had done a poor job in 1893 convincing the rest of the country that it had recovered from the war and had become a modernized part of the new union. This was in part due a lack of the resources required to attempt this. More importantly, it was due to a lack of conviction. The South was different. If reconciliation and reintegration of the South meant adopting the culture of its conquerors, few would have been willing to comply. The South would integrate the trappings of modernization into a culture that had not only survived the war, but was also being actively re-envisioned. There was no bargain to be struck, no exchange of one for the other. Electricity would be incorporated into Southern life,

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[23] Anderson *Intelligencer*, January 10, 1894.

and the belief was that its flavors would remain unaltered, that Southern culture could endure. *Abandoning* what was distinct about Southern identity was never a plausible concession to the late 19th century New South booster. In a land of small island communities, powerful traditional values, and a visceral attachment to the past, the path toward *modern* followed a strange course. Electricity in the South is a window into how a process, often painted as ubiquitous in America, developed and influenced Southern culture. The rejection of tradition, the death of small community relationships, and the blind hope that technological progress would one day translate into *human* progress - these features of American thought during the period are trends that must be reevaluated in light of a distinct Southern society, one that was as clear in 1895 as it was in 1860. W. Y. Atkinson wrote in preparation for the electrically-lit, devotedly Southern Expo of 1895.

> The South still remains largely an unknown land to the average Northerner, and its topography, flora and fauna, habits and customs, are almost as unfamiliar to him as to the untraveled inhabitant of another continent. Shut off from any close communication with each other for the first two-thirds of the century by the vital difference in their labor systems, the Northerner first became acquainted with the real aspect of the South as a member of an invading army. (….) Factors have operated to keep the North and South apart, not to rake up political reasons that have so recently been buried that they are better left undisturbed (….) At any rate, it has left intact an American civilization of the highest order and the purest character.[24]

The '95 fair in Atlanta would prove a resounding success. The scale and grandeur would pale in comparison to the White City to all but Georgia's proud governor, but many visitors who had traveled south would have felt a certain level of surprise at the resources generated by a comparatively small city, particularly one that had

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[24] Atkinson, 399.

been left in a smoldering heap thirty years prior. One the eve of the fair's opening, the Atlanta *Constitution* reports, "A continent waits expectant. Georgia stands on tiptoe and Atlanta holds herself in readiness to show the millions of visitors what Southern pluck energy and enterprise can accomplish."[25] Even while workers completed the fair displays the spectacle generated by new, powerful technologies enlivened anxious citizens. Reports were that "to break the monotony of work during the night came the flashing of the big searchlight on top of the government building, a great flood of light that poured itself across the horizon and bathed a stretched of countryside for miles about."[26] It seems reasonable that somewhere in the city, *someone* looked upon the way such lights could reshape the night with a moment of trepidation. But concerns regarding an electric South are absent from the record. Challenges to technological progress, like local complaints surrounding the organization of the fairgrounds, were quickly drowned out by the glittering illumination of fair lights and Southern optimism. One interested citizen wrote to the *Constitution*.

> And lo! The quiet of the electricity building is invaded, and no more can the sparrows be heard to chirp in the proud and quiet precincts. I saw nearly two dozen electric fans in there yesterday morning, besides several new motors. The electricity building seems much too nice a place for exhibits. It seems to me that the best use to put it to would be to make of it a promenade concert hall (….) But as electricity is the most progressive of the sciences, it is perhaps just as well that it have a full representation.[27]

If the 19th century world's fairs had a message it was that technology was

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[25] Atlanta *Constitution*, September 17, 1895.
[26] Ibid.
[27] Ibid, September 12, 1895.

tantamount to progress. Southern hesitancy to electrification, fear of the consequences it would have for a modern Southern society, was nonexistent.

The Liberty Bell came for display on the Atlanta fairgrounds. Schools were closed so that children could visit the touring landmark. Buffalo Bill's Wild West Show performed under the Expo's powerful arc lights. Accounts of Atlanta's accomplishment were glowing. Southerners felt assured that they had succeeded in exhibiting Southern culture and advancing Southern industry. Judge Emory Speer, in his opening day speech, concluded that

> The spectacle is indeed auspicious. The astounding manifestations of the energy of modern nations exalt while they amaze the understanding. The elevate and enrich the imagination and yet it is impossible for that lively faculty to conceive and complete reality of the wondrous and imperial display. Such is the ennobling panorama this exhibition of the possibilities of the young and potent nation will place before the sentient and observant mind (….) These typical Georgians consecrate their disinterested lives to demonstrate to all the strength of Southern character and the plentitude of Southern resources.[28]

New Southerners would claim that theirs was a region where culture and heritage reigned. Over the next decade, the manic optimism of the Atlanta midway, the faith and hope associated with technological progress, seeped into the growing mill towns of the cotton belt.

The most memorable moment of the Exposition opening was, for many, Booker T. Washington's speech. Shortly after President Grover Cleveland had lit the fair lights via an electric switch from his summer home in Massachusetts, Washington delivered an address on the role of blacks within the New South.

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[28] Atlanta *Constitution*, September 19, 1895.

> To those of my race who depend on bettering their condition in a foreign land or who underestimate the importance of cultivating friendly relations with the Southern white man, who is their next-door neighbor, I would say: "Cast down your bucket where you are" - cast it down in making friends in every manly way of the people of all races by whom we are surrounded. Cast it down in agriculture, mechanics, in commerce, in domestic service, and in the professions. And in this connection it is well to bear in mind that whatever other sins the South may be called to bear, when it comes to business, pure and simple, it is in the South that the Negro is given a man's chance in the commercial world, and in nothing is this Exposition more eloquent than in emphasizing this chance.[29]

This message of paternalism epitomized the rhetoric circulating around the South at the end of the 19th century. Southern blacks would be integrated as far as the needs of growing industrialization would allow and no further. C. Vann Woodward famously claimed that it was the 1890s that saw the beginning of black/white antagonism that would lead to generations of Jim Crow. More importantly, Washington emphasized that black Southerners take part in modernization and its commercial boons rather than attempt to carve out a new cultural role for blacks. The message was clear; old relationships could and should survive dramatic technological change.

The dawn of modernity in America is a difficult story to tell. Like Hughes's electrical *system*, it has dimensions within social, intellectual, economic, and political spheres. The impression that the South pursued its own course towards a modern infrastructure is implacable. Southern modernity is related to the facets of a distinct Southern identity, a Southern mind, which have struck Southern cultural historians for decades. Electricity and its applications are part of this process. The way the

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[29] Booker T. Washington, Speech Before the Atlanta Cotton States and International Expostition (Atlanta: September 18, 1895).

South implemented electric power reflected the character of a region that was different from Philadelphia and the industrial North and different from Chicago and the burgeoning Midwest - different with respect to its attachment to tradition, its notions of community, and its turbulent social institutions. C. Vann Woodward writes,

> For Southern history, unlike American, includes large components of frustration, failure, and defeat. It includes not only an overwhelming military defeat but long decades of defeat in the provinces of economic, social, and political life. Such a heritage affords the Southern people no basis for the delusion that there is nothing whatever that is beyond their power to accomplish.[30]

This heritage is noticeably absent from the language of New South advocates. Southerners adopted a new delusion, one that believed that the South could remake itself in an old image, that they could prove Northern critics wrong and become an industrial people. Their greatest mistake lay in thinking that this technological transformation would leave Southern culture unchanged. In 1895, concerns among Southerners were how to rise up and compete with the North, how to show the world that the South was a perfect union of new industry and old charms. Charleston's city commissioner, E. L. Roche, traveled around South Carolina's textile-rich upstate to inspect progress on the local contributions to the state's exhibit for Atlanta. Mill towns in the midst of a remarkable industrial boom hurried to prepare a regional showcase for the '95 Expo.

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[30] C. Vann Woodward, *The Burden of Southern History* (Baton Rouge: Louisiana State University Press, 1960), 19.

> Roche visited Aiken, Abbeville, Anderson, Oconee, Greenville, Spartanburg, and Chester counties and he reports that everywhere he went he found the people enthusiastically in favor of South Carolina making a good showing at the Exposition. He says that in some of the counties he passed through very little work had been done but the people were heartily in accord with the movement and that they were now organizing as rapidly as possible.[31]

The Atlanta Expo was a conspicuous beginning to the way the South would reform itself. Electric lights and power were lauded as the means to a Southern apotheosis. In the towns, where rampant enthusiasm was being generated around new, local applications of electricity, investment in new technology became a community enterprise. Banks, entrepreneurs, and newspapers all trumpeted the miraculous power of lights, mills, and streetcars to revivify the South, never anticipating the dramatic ways it would alter Southern life forever.

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[31] Charleston *News & Courier*, May 7, 1895.

III. *High-Voltage and Southern Community*

The New South was a paradox. An alchemical mix of greed and conviction led Southern leaders to herald an era of modernization and prosperity in the South. Naiveté and loss caused many hopeful Southerners to believe them. Editor of the Atlanta *Constitution*, Henry Grady spoke at gathering of the New England Club in New York, 1886.

> We have established thrift in city and country. We have fallen in love with work. We have restored comfort to homes from which culture and elegance never departed. We have let economy take root (….) Above all, we know that we have achieved in these "piping times of peace" a fuller independence for the South than that which our fathers sought to win in the forum by their eloquence or compel in the field by their swords. It is a rare privilege, sir, to have had part, however humble, in this work. Never was nobler duty confided to human hands than the uplifting and upbuilding of the prostrate and bleeding South—misguided, perhaps, but beautiful in her suffering, and honest, brave and generous always. In the record of her social, industrial and political illustration we await with confidence the verdict of the world.[32]

New South boosters trumpeted an age of modern abundance. They envisioned the South uplifted by industry, a land where antebellum virtues and commercial strength could stand against Northern scorn and debasement. Taunts from Northern travel writers stung Southern pride. It is true that much of Charleston had not been rebuilt by 1880 and that ruined houses could still be found lining the streets of

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[32] Henry Grady, Address to the New England Club of New York, 1886, Printed in Paul D. Escott and David R. Goldfield, *Major Problems in the History of the American South*, Vol. II, *The New South* (Lexington: D.C. Heath and Company, 1990), 71–73.

Columbia in 1883.[33] Northerners traveling in the South in the 1870s and 1880s were quick to point out the pitiable state of Southern recovery upon returning home.

There was a national dilemma of how to characterize the South's progress towards modernization, and history has largely viewed this process as being a stunted version of the Northern model, a dawdling, homogenous evolution towards a manufacturing economy. Historian James C. Cobb writes,

> Because the North's response to modernization was supposedly the classic example, the South's failure to replicate that response marked it as an aberration whose deviation from the norm demanded some explanation. Consequently, instead of treating the region's experience with modernization as a discrete phenomenon worthy of study in its own historical context and in all of its complexity, a number of scholars simply concentrated on finding an explanation for the South's divergence from the Northern example.[34]

Many of these explanations centered around a lack of available capital, though there is conclusive evidence that a great deal of investment capital was generated by small Southern communities for the construction and modernization of textile mills. The South, painted by those Northern travelers as being locked in agrarian stagnation, had witnessed the birth of a strong, semi-urban middle class. Southern teachers,

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[33] C. Vann Woodward, *Origins of the New South, 1877-1913* (Baton Rouge: Louisiana State Press, 1951), 107. Woodward, in his chapter entitled "The Industrial Evolution," provides a useful overview of Northern as well as European travel accounts of the South in the years following the end of Reconstruction. He quotes a New York *Tribune* contributor's account from October 3, 1879; "fifteen years have gone over the South and still she sits crushed, wretched, busy displaying and bemoaning her wounds."

[34] James C. Cobb, *Redefining Southern Culture: Mind and Identity in the Modern South* (Athens: University of Georgia Press, 1999), 187.

doctors, journalists, and lawyers were more than ready to invest in Southern infrastructure and industry. They were sold on prophecies of a technologically modern society devoted to a noble culture.

Local investment became a moral imperative. An Anderson, South Carolina newspaper reported in 1893,

> A young man of inquiring mind having written to the Atlanta *Constitution* to ask how to become rich, that paper replies with the following formula: '"Save all you income; don't invest your savings in anything that will build up the country, but lend it at the highest rate of interest you can obtain, grind the needy whenever occasion offers; never make a donation to anything (….) Observe these rules strictly, and if you live anything like the allotted time for men to live you will be a rich man, and whenever you die everybody, including your heirs, will be glad of it.[35]

The Southern middle class claimed civic pride and a philanthropic impulse motivated the investments in their communities. C. Vann Woodward is skeptical, citing the fact that profits from investment in Southern textile mills vastly exceeded returns in the North. Regardless of motives, South Carolina, one of the last states to be handed over to the Redeemers, experienced extraordinary rates of growth in textile production, "more than [tripling] her cotton-mill capital and more than [quadrupling] the value of her output" between 1860 and 1880.[36] This is out of sync with a characterization of the South's progress towards *modern* as being a slower version of a Northern paradigm. The heavy economic incentives for placing stakes on Southern industry do not negate the fact that a large amount of high-risk

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[35] Anderson *Intelligencer*, December 22, 1893.
[36] Woodward, *Origins*, 132.

investments were being made by Southerners in a Southern future. Woodward admits,

> As important as these inducements undoubtedly were, they cannot account for the public zeal that, in the Carolinas, Georgia, and Alabama converted an economic development into a civic crusade inspired with a vision of social salvation. Not only did this process occur in cities like Charleston, Atlanta, and Charlotte (….) but even more typically in isolated Piedmont towns (….) [which] were suddenly aflame with the mill fever and "a passion for rehabilitation." (….) With a headlong zeal not uncharacteristic of the region in war as in peace, the Southeast embraced the cotton mill. "Even machinery was wrapped with idealism and devotion," according to one account. [37]

This takes place during a period, according to many historians, marked by the decline of local relationships. In a technological landscape of telegraph poles and efficient freight lines, the 1880s and 1890s witnessed the rapid deterioration of Wiebe's "island communities" in the North. Bureaucratization had taken authority away from civic leaders and local business interests and relegated it to growing economic hubs, largely in the industrial northeast. Manufacturing had grown impersonal under the Northern model, with supply and distribution lines stretching across the continent. In this climate of rapid economic change, depicted by many as a universal feature of a modernizing nation, the South emphasized local commerce, capitalization and investment against trends in other modernizing American regions.

Explaining this Southern preoccupation with remaining local amidst these changes requires channeling notables within Southern cultural history - historians

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[37] Woodward, *Origins*, 133-134.

like Cobb, Charles Wilson, or Bertram Wyatt Brown - who are willing to accept that there is something distinct about the South for reasons other than its socio-political history, its climate, or its demographic makeup. This might be attributed to "identity" or "culture" or *mind* (to pay homage to the much-maligned, delightfully-rambling, wildly unsubstantiated Wilbur J. Cash). The South is different, and the distinction can be blamed on Southerners themselves. Cash would see it as no problem at all to tackle this Southern "civic zeal" phenomenon with the mighty bludgeon of *mind*. Southerners (and by this, Cash means *white* Southerners), from their Scotch-Irish roots, derived institutions of Southern pride and honor that necessitated public validation. Southerners, particularly those occupying the uplands of South Carolina, North Carolina, and Georgia were conditioned to believe that courage, masculinity, and virtue were only realized in family and community acclaim. Honor could be derived from a wide spectrum of accomplishments, everything from being proclaimed the victor in a drinking contest to being lauded as a substantial contributor to local mill construction. Woodward is skeptical of the sincerity of mill investors. He doubts the motives they claimed were the ones that spurred them to invest, only begrudgingly admitting that "the profit motive did not necessarily preclude the philanthropic motive, but it does seem to have outweighed it in some instances."[38] Many historians view mill capitalization as a trend that

[38] Woodward, *Origins*, 133.

evolved into "a form of civic piety."[39] This is just the kind of public display that Cash would argue lies at the center of Southern values. Investors, amidst the rhetoric of uplifting a suffering South, would have their virtue validated by the members of the community that recognized a common need and reaped common benefits. And the optimism and hope vested in modernizing the South's textile industry obsessed Southern reformers. One newspaper contributor wrote in 1895 that "it becomes plain even to the dullest mind that the transfer to the south of the cotton industry would make it the richest region on the face of the earth!"[40] What's perplexing is how blind Southern town residents were to the way modernization would corrupt the idealized culture of Henry Grady's boostering. No one questioned whether "culture and elegance" would survive the process. New technology, paid for by Southerners, would irreparably alter Southern life.

Anderson, South Carolina is 125 miles northeast of Atlanta. In 1895, when the 80,000 residents of Atlanta were preparing for the Cotton States and International Expo, there were fewer than 50,000 people living within the 750 square miles that made up Anderson County.[41] While it was Atlanta that had emerged as the capital of the New South and the city worthiest to host the Cotton

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[39] Woodward, *Origins*, 134.
[40] Atlanta *Constitution*, September 15, 1895.
[41] "Population of Counties by Decennial Census: 1900 to 1990," U. S. Census Bureau, Compiled and Edited by Richard L. Forstall, Internet Release Date March 27, 1995, http://www.census.gov/population/cencounts/sc190090.txt.

States Exhibition, the rural upstate of neighboring South Carolina was experiencing rapid growth in cotton production and actively experimenting with new mill technology. The most provocative mill modifications, as well as the most pronounced transformation of town life, lay in the incorporation of electric power. Electricity captured the imagination of entrepreneurs in Anderson and Spartanburg and in larger Carolina cities like Columbia. Its incorporation into Southern textiles mills would place a backward, languishing region of the American South on the vanguard of electric power innovation.

The prevailing picture of Southern modernization is that it trotted along behind the north, adapting Northern methods when its own needs arose. Some, notably David Lee Carlton and Peter Coclanis, have argued that, in some ways, this gave the South some advantages. They write,

> Southern entrepreneurs, conservative legatees of a society deficient in business or technological skills, were perfectly willing to become, in effect, franchises of the already developed technological community of the manufacturing belt.[42]

Southerners, being naturally risk averse and "uninventive" would, in this view, timidly cling to the coattails of Northern pioneers. They would pursue no new applications or contrivances of their own, relying on Northern gumption (and Northern money) to bring them closer to the model experience of modernization. New South advocates struggled futilely to make sure that this would not become the

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[42] David L. Carlton and Peter Coclanis, "The Uninventive South: A Quantitative Look at Region and American Inventiveness", *Technology and Culture* 36 (March 1989), 325.

dominant picture of Southern modernization. A newspaper tackled the question in 1894.

> In the Chattanooga *Tradesman* there has been recently an interesting discussion by Mr. D. A. Tompkins of the capabilities of the Southern people as manufacturers, and the fact is brought out that the south has within a few years accomplished feats declared by New Englanders to be impracticable. It has been said that the Southern people lack enterprise and cannot on that account become a manufacturing people (.....) Long strides in improved machinery, etc., have been taken by Southern cotton manufacturers, until today. Virginia, North Carolina, South Carolina and Georgia can show several mills that will stand in comparison in perfection of structure, machinery and product with the best in New or Old England.[43]

Novel experiments with electricity and mill design made the South into an industrial power. Southern manufacturers relied on Northern methods and capital in cases where it was necessary, but largely rode the wave of local enthusiasm for community-building in Southern towns. Industrial leaders and investors declined to analyze the impact this would have on their highly prized way of life.

The degree to which Southerners in the upstate of South Carolina and Georgia invested in their own industrial growth cannot be overstated. It's true that the textile industry had existed and been evolving for generations within the North and South, but when it came to engineering *new* textile production methods in the wake of electric power, the South fostered some notable accomplishments. Even Cobb, who sees the inherent problem in trying to force the South into the mold of modernization experienced in the North, misses the radical, inventive way the South begins to reshape itself. He notes,

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[43] Anderson *Intelligencer*, January 24, 1894.

> As a latecomer to the modernization feast, the South seemed to have a variety of options, but the limited capital available ultimately dictates a moderate, mundane diet drawn from some of the offerings that had actually been on the table for some time. For example, the South's heavy dependence on the textile industry where many of the technological innovations had already been developed put less pressure on the pocketbooks of the region's investors but also gave them little incentive to invest in the development of new technology and processes.[44]

The textile-rich region of the South deviates from the model; in fact, it deviates from *any* model. The blinding, beguiling way electricity entered the American mind took place in the South, in a society that saw the unique potential to address Northern criticisms, incorporate new technology, and remain devotedly *Southern*. One contributor to the Anderson *Intelligencer* writes about the importance of employing modern methods in cotton production.

> I am a native Southerner, with Southern interests and Southern sympathies and it is my dearest wish that the South may wake up, study closer and be the once proud and prosperous section as in ante-bellum days.[45]

These are concerns that are invariably wrapped up in the modernization of towns and mills. Manufacturing is the answer to the South's problems, and the thought that it would create deep divisions within Southern society never crossed Southern minds.

> Manufacturing is now one of the greatest factors of Southern progress. In the last ten years our manufactured product has jumped from $457,000,000 to $917,000,000. This is $144,000,000 in excess of our agricultural products for 1890.[46]

The region adapted electric power into a century-old textile economy, showing remarkable ingenuity and alacrity, but little concern for how the process may affect

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[44] Cobb, 189-190.
[45] Anderson *Intelligencer*, March 14, 1894.
[46] Ibid, April 11, 1894.

Southern identity. In Anderson, where the South worked out how to light and power itself, boosters were eager, hopeful, and invariably stuck, chasing a mirage of a familiar culture in a new technological world.

In 1893 Anderson was dark. Like many Northern towns, Anderson, South Carolina was struggling to find practical methods to incorporate electricity as well as the expertise to run the new system. Anderson native, William C. Whitner was a recent graduate from the University of South Carolina where, after deciding not to pursue law, he had taken a degree in civil engineering. He returned to his father's home in Anderson to recover from a bout with typhoid fever, and at age 26, he received a commission from the city to install and run an electric power station that could be used to light the city streets. Whitner built a steam powered, direct current generator on Tribble Street that powered the city's 750 incandescent streetlights. The Anderson Waterworks facility was managed and operated by Whitner's assistant, Reuben Long. [47]

The dilemma many city planners and factory owners were facing at the time was how to effectively incorporate electric power into existing manufacturing systems and make it economical. Old methods had inertia, and this, combined with the high cost of generating electricity with steam, complicated the decision to electrify. The benefits of electric lights in homes and factories over gaslights were

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[47] Frank A. Dickson, *Journeys Into the Past: The Anderson Region's Heritage* (Anderson: Anderson County Bicentennial Committee, 1975), 155.

perfectly clear (see *V - Lights, Schools, & Libraries*), but the limitations of electric dynamo technology in 1890 did not make adopting electric power a clear-cut, financial imperative for investors. The problem, one which would persist for over a decade, was in the choice between low-voltage direct current transmission and higher-voltages produced by the still highly experimental alternating current generators. The competition between these two technological systems constitutes one of the best-known stories from the history of electric power in America. In the early 1880s, Thomas Edison built the first commercial power plant in lower Manhattan. Pearl Street Station went online in 1882, serving 85 customers within the radius of a city block. Edison's patents, which all relied on the production and utilization of direct current, were severely limited in the range over which they could provide reliable power. Because of this, throughout the 1880s, electrifying sparsely populated small communities wasn't feasible (not to mention the wide tracts of rural homes that dominated much of the South and West).[48] In the 1890s, stiff competition to Edison's conglomerates arose in the designs and patents of George Westinghouse and Nikola Tesla, a Serbian émigré who pioneered the introduction of alternating current technology. Alternating current could be distributed over much greater distances without significant power loss.

A battle over popular perceptions unfolded. Referred to as "the current war," Westinghouse and Tesla defended the advantages of alternating current against a

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[48] Nye, 300.

barrage of media attacks launched by Thomas Edison. In 1893, Westinghouse was awarded the commission to light the Columbian Exposition in Chicago and showcase the benefits of an alternating current grid to the world. Edison did not go quietly, continuing to fight for the acceptance of his designs and smearing the dangerous qualities of his opponents'. He made sure that the first electric chairs in the U. S. ran off AC, going as far as using Westinghouse dynamos to euthanize an escaped elephant in 1903, meanwhile marketing his own DC as the only current any reasonable person would ever want flowing through their home. The message in this is that during the 1890s and into the early 20th century, for many Americans the choice between these two forms of electric power remained ambiguous. Responsible, conscientious engineers were vested with a great deal of public trust to experiment and decipher which technologies were appropriate to the needs of the community.[49]

In 1893, Whitner incorporated his own electric company to explore the applications of alternating current in Anderson and the small surrounding communities. The Anderson Water, Light and Power Company was primarily funded by local investors, including another Anderson native, H. A. Orr, who served as president.[50] In 1894, Whitner reportedly traveled to New York with a colleague to investigate the sensational claims surrounding AC technology. When he returned, he

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[49] Tom McNichol, *AC/DC: The Savage Tale of the First Standards War* (San Francisco: Jossey-Bass, 2006), 107.
[50] Dickson, 156.

began to rally support for his plan to provide power to the city of Anderson using the new experimental, alternating current generators. A medical doctor from Chester, South Carolina, Walker G. Wylie, who would later go on to play an instrumental role in the formation of the Duke Power Company, began to throw his support behind Whitner's experiment. He recalled in 1912,

> Sometime during 1895 or 1896, Mr. William C. Whitner who was a graduate engineer of the University of South Carolina, went North with Mr. John Rockney of Rock Hill, S. C., to interest me and my brother, Dr. R. H. Wylie in a steam plant, which was used for supplying the city of Anderson, S. C., with water and lights. My brother and I took a large amount of bonds and stock in their company. In the meantime, Mr. Whitner realized that the steam plant needed to be supplemented with some hydroelectric power, so he began to work out a lease arrangement with the McGalls, in order to install a small plant of 100 horsepower, in the back of their grist mill, located on Rocky River, six miles from the city of Anderson.
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> This was in the year 1893, and electrical machinery for such work was in the experimental state, and it was quite a difficult problem to decide just what to use. But young William Church Whitner was convinced that high voltage should be employed to as great an extent as possible. He was also able to convince the directors of the Anderson Electric Light and Power Company, as well as my brother and myself, that it was feasible. We purchased from the Stanley Electric Manufacturing Company of Pittsfield, Mass., a 120 K.W. alternating current generator wound for 5,000 volts, with all the necessary apparatus.[51]

The Wylies, directors of Anderson Power, and private citizens of the city contributed much of the $25,000 needed to construct the experimental station and lease the property at High Shoals on the Rocky River. The local newspaper sold Anderson citizens on new, important advantages electric power would bring to their community. It 1894, the *Intelligencer* wrote,

> Stock [is offered] to our citizen's on very favorable terms in order to get more home people interested in the enterprise, and from the showing made by the officers of the Company, it seems as if it offers a very safe investment to parties having money to

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[51] Walker G. Wylie, Speech Given to the Employees of the Southern Power Company, December 28, 1912, Reprinted in *Caroliniana Columns* (No. 23, Spring 2008): 9-10.

> invest. It is the purpose of the Company to bring cheap power to the city, and eventually run all the machinery in the city now being operated by steam power, besides greatly improving the present lighting service (….) When our citizens have such an opportunity of helping themselves and encouraging such an enterprise they should not fail to do so. Call upon the officers of the Company and subscribe for a few shared of stock. You will never regret it.[52]

Poles and lines were run along the six miles separating the substation and the city, and on May 1, 1895, the power generated at High Shoals reached Anderson, effectively powering the city's streetlamps which had been expanded to 2,000.[53]

The 5,000 volt generator constructed in Massachusetts by Stanley Electric Manufacturing Company was the first of its kind. Whitner spent weeks scouting for manufacturers who would be up to the task, only to have his voltage specifications scoffed at.[54] The Stanley Company offered encouragement and constructed the unprecedented dynamo, and once installed, the High Shoals station was the first hydroelectric power plant in the world to generate current at such a large distance. The transmission of electric current over the six miles from the plant to town garnered widespread attention. That feat and the accomplishments that followed would lead the *Charleston News and Courier* to dub Anderson "The Electric City," a title it retains today. Fame only fed the fervent efforts to modernize, to make Anderson into a model that other Southern towns could emulate. Throughout this transformation, no speculation was offered as to how electrification might upset Southern town culture.

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[52] Anderson *Intelligencer*, November 28, 1894.
[53] William L. Watkins, *Anderson County: The Things That Made it Happen* (Anderson: Anderson Historical Society, 1995) 57.
[54] Dickson, 156.

Anderson is a dramatic example of the South clinging to old notions of community while welcoming the technologies that would fundamentally change old relationships. Community mattered in business, religion, and in validating the time-tempered qualities of distinct, Southern virtue. The zeal to invest in local industry is an example of the South's particular struggle towards modernity, one that failed to pay attention to new technology's influence over Southern culture. A new measure of right, of honor in the New South was *invented* in the promotion of Southern industry. The sting of those Northern travel writers' accounts of the South as irreparably backward, hopelessly regressive, was the impetus to achieve the South's greatest goal after Confederate defeat: to emerge as a modern culture that refused to betray its sacred self-image. Cash writes,

> Distinctly, the South had, in the immediately manifest facts, overwhelming good reason to be feeling what it inevitably was feeling at the opening of the twentieth century, that all its troubles were solved or being solved, that mastery was achieved or being achieved. That it had succeeded or swiftly was succeeding in creating a world which, if it was not made altogether in the image of the old world, half-remembered and half dreamed, shimmering there forever behind the fateful smoke of Sumter's guns, was yet sufficiently of a piece with it in essentials to be acceptable, a world which by and large would serve as a reasonably proper garment for its mind.[55]

Where the conventional story of America at the end of the 19th century is of being universally forward-looking, of actively abandoning the old traditions and institutions of the past in light of technological and ideological progress, the South is distinct. It hurried to gather its share of the fruits of modern America, all the while believing that white authority, pastoral virtue, and unimpeachable honor would be

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[55] Wilbur J. Cash, *The Mind of the South* (New York: Knopf, 1941), 216.

waiting for it when it arrived. It reacted to Northern taunts, economic stagnation, and political reform without concern for how life in the South might be shaped by new technology. Technological concerns surpassed cultural ones as the South fanatically began to invent and construct a society around new, modern mills. Again, optimism reigns over prudence in an 1895 account from the Charleston *News & Courier*.

> It is very generally known that Greenville will certainly build three new cotton factories this year and perhaps five; that Spartanburg will build at least one; that Columbia is building one; that Aiken will build one; that Batesburg has one nearly completed, and that some of the old mills are building large annexes that would be big mills in themselves. These additions to the manufacturing plant of the State would alone make a gratifying exhibit for the enterprise of the people of South Carolina in a period of depression (....) It is a good record for the first four months of the year, and the best part of it is that nearly every mill mentioned will owe its origins to local enterprise and effort and will therefore be operated for the profit, as well as for the benefit, of the community which will support it.[56]

A society painted as history-obsessed, heritage-minded, and sanguine about its distinctive character failed to protect (or perceive a threat to) these things from technological progress.

One of the reactions to Northern criticism was an undeniable willingness in the South to experiment with electricity to suit it own uses. Within the textile industry, Southern entrepreneurs quickly developed the technology into a form suitable for textile manufacturing. They also led the field in adapting hydroelectric power, tailoring it to the terrain of the upstate. The fact that this has been largely ignored can be attributed to the relatively small portion of the South that this

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[56] Charleston *News & Courier*, May 13, 1895.

directly benefitted at the turn of the century. Much of the South remained dark, without the 20th century conveniences of electric lights, telephones, and refrigeration, for decades after Anderson made headlines. More significantly, prevalent historical accounts of the period successfully point out the corruption of Redeemer politicians, accelerating patterns of racism and bigotry, and the increasingly pronounced disparagement between rich and poor, rural and urban. Admittedly, the number of Southerners who had the opportunity to participate in this technological, modern transformation of Southern identity is small. This doesn't negate the message. Among New South leaders of Southern manufacturing towns, Southern cultural values took a back seat to new industry. Powerful, captivating new technologies did not stamp out identity completely. The modern South would be an uncomfortable mix of old and new. J. S. Reed writes,

> We often see, elsewhere in the world, that economic development simply provides new ways to do old things, or ways to do what would have been old things if they hadn't been impossible. Japanese use modern birth control to avoid births in unlucky years; Orthodox Jews ride automated elevators on Shabbat; Muslims are summoned to prayer from unbelievably distances by electronic muezzins.[57]

Reed's mistake lies in believing that anything about the process he describes is simple or benign. Conflict between old and new, black and white, mill and town would become more pronounced as the South trundled towards modernity.

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[57] John Sheldon Reed, *One South: An Ethnic Approach to Regional Culture* (Baton Rouge: LSU Press, 1982), 186.

IV. *Electrifying Southern Mills*

In 1895, other innovative systems were being employed throughout the textile belt. Mill expansion, a facet of the New South vision, was actively promoted with no concern afforded to the potential side effects of industrialization. DC generators, ordered from General Electric, were installed in Columbia mills to take advantage of hydroelectric power, increasing their output. Columbia turbines which were deftly employed and which "worked for more than thirty years with only minor repairs"[58] served as model examples of the new applications to towns that would later adopt electric mill technologies: Manchester, Lawrence, and even the illustrious Lowell. This isn't to suggest that the only Southern innovators were textile magnates. Virginia and North Carolina witnessed a boom in the cigarette industry, largely fueled by the new automated rolling machines that had been invented by J. A. Bonsack, a Virginian, in the early 1880s. One of the first to employ the new machines on a large scale was James Buchanan ("Buck") Duke, who used automated rollers, which could produce 120,000 cigarettes in ten hours, to corner the tobacco market. By 1890, he supplied 40% of America's cigarettes and had

[58] Nye, 189.

amassed a fortune that allowed him to invest in the transformative new technologies that were changing the South's mills and towns.[59]

After his High Shoals experiment proved a resounding success, Whitner began recruiting support for a new, larger, more distant generating station that would not only increase the amount of electric lighting in the community, but could also meet the power needs of local industry, namely the textile mills. Walker Wylie spearheaded the purchase of land eleven miles from town on Portman Shoals. He recalled,

> Whitner decided to use machines wound for 11,000 volts, but no such generators had ever been built. He was finally able to get the Stanley Electric Manufacturing Company to agree to manufacture two 900 horsepower generators, wound for 10,000 volts. They were the first 10,000 volt generators ever built for commercial work, and, of course, they were regarded as more or less of an experiment. The plant was put into operation November 1897, and used continuously for many years, thus demonstrating the feasibility of high voltage alternators.[60]

As well as expanding the availability of electric power to the residents of the small town, the Portman Shoals station also provided current to the Anderson Cotton Mill. In 1895, the mill had agreed to swap their steam engines for electric motors. The project was enthusiastically picked up by the business leaders of Anderson, who were confident that the capital required to convert the mill and build the power station could be raised locally. Citizens of Anderson were anxious for the boons of cheap electric power. In 1896, the Anderson *Intelligencer* wrote,

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[59] "The Duke Endowment: Our History", The Duke Energy Company, Accessed September 2, 2011, http://www.dukeendowment.org/about-us/our-history/.
[60] Wylie, *Columns*, 10.

> The officers of the power company are asking that the citizens here subscribe for $50,000 at least (….) By the terms of the contract with the cotton mills they have only sixty days more in which to place their bonds, so that if they are to succeed there is no time to lose. As a security, the nest business men in the city have endorsed them in the strongest way they can, vis., by subscribing for them, two days' canvassing having succeeded in securing subscriptions for $30,000, while both the city banks offer to advance 80 percent, on the security of the bonds as collateral, thus enabling every one to take something in the enterprise, whether he can pay for it now or not.[61]

A local farmer, Oliver Bolt, opted to contribute to the project in significant fashion. Bolt entered into contract with the new power company to power his cotton gin with electricity. One historian writes that "Bolt's Cotton Gin, on what is now SC Highway 24 at the junction of New Prospect Church Road, was adjacent to the power line from Portman to the sub-station and subscribed for electric power. It is believed to be the first cotton gin in the world powered by electricity."[62] This milestone had a marked effect on local onlookers. The account recorded by the *Intelligencer* paints Bolt as a Southern pioneer, employing new technology to better the community.

> There are some people who have a sagacity and foresight considerably in advance of those around them, which not infrequently emanates from native talent, and is not the methodical mental training or wide observation. To this latter class we believe belongs Oliver Bolt, familiarly known as "Duck" Bolt, and whose farm home lies about three miles from Anderson. As soon as it became a settled fact that an electric plant at Portman Shoals would be developed, and that the pole line would pass within half a mile of his house he determined to operate his public cotton gin by electric power. To this end he (….) sold his steam engine, bought the electric motor, set it to position and adjusted his machinery to I, and when the current was turned on about the first of last month, had the satisfaction of seeing his enterprise a complete success. This is, in all probability, the first cotton gin in the world to be operated by electrical power, and when it is considered that Mr. Bolt is a plain, unassuming farmer, with no knowledge of electrical power except what he has observed here at home, he deserved more than ordinary credit for his enterprise.[63]

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[61] Anderson *Intelligencer*, June 3, 1896.
[62] Watkins, 57.
[63] Anderson *Intelligencer*, December 15, 1897.

Bolt's inventiveness and the novelty of his project doubled the gin's business. More significantly, the benefits of modern methods became a spectacle for local leaders. Businessmen, journalists, and "unassuming farmers" like Bolt had a marked opportunity to question what these transformations would spell for Southern culture, and all failed to do so.

Another mill, built in 1895 in Pelzer, converted to electric power generated four miles away on the Saluda River at roughly the same time as the Anderson mill. Pelzer Manufacturing Company and the Anderson Cotton Mill led the way in what became a flood of mill and substation construction. Mills in Belton, Williamston, Honea Path, Pendleton, and Iva were constructed, beginning in 1899, after the last effects of the Panic of 1893 had lifted. These mills were built by local capital, members of a new Southern middle class caught up in the "zeal" and "piety" of local rehabilitation. The population of Anderson County increased from 43,000 in 1890 to 70,000 by 1910, and in 1907, a Chamber of Commerce brochure reported that over 10,000 residents were employed in the cotton mills.[64] Raising local money became easier as the potential of modern mills was picked up by newspapers and New South boosters. An Anderson newspaper editorial commented on the clear financial and moral imperative of investing in the coming mill boom.

> A short communication in the last week's *Journal*, headed "Now Is The Opportunity," is on the right line, and the question asked in that article, "Do our people realize the opportunity now offered?" should make every man in the City and County of Anderson who either owns property

[64] Watkins, 59.

> to be benefited or has a spare dollar seeking investment to stop and think what the opportunity really is and what its accomplishment will mean for both the City and County.[65]

Southern prosperity was being fervently hitched to the cart of mill development. All of these changes came with the implicit assumption that progress was a product of new technological innovation and that cherished Southern values were immune to the change. More lights, more rails, and, most importantly, more spindles were the fetishes of Southern reformers. The same editorial contributor wrote,

> In the territory comprised by the Counties of York, Chester, Spartanburg, Union, Laurens, Greenville, Abbeville, Newberry, Anderson, Oconee and Pickens, there are today more spindles running and under construction than any territory double the area in the South and if indication are of any value as foretelling the future, this same territory is destined to be the center of the cotton manufacturing industry, not only in this country, but in the world.[66]

Other towns followed suit, employing electricity to remake themselves - a thousand Lowells, each with a modern face but an old soul. Athens, Georgia built substations and connected them to new and existing mills under the Anderson model. Athenian investors were assured that, "at the power plant every piece of machinery will be of the most modern design and of the finest construction; and the plant will embody the latest achievements in mechanical and electrical engineering."[67] The lack of concern with how new technology would affect Southern identity would eventually prove tragic, but meanwhile, Southern mills went up with increasing rapidity. Experiments with scale and organization flourished.

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[65] Anderson *Intelligencer*, April 1, 1897.
[66] Ibid.
[67] Atlanta *Constitution*, September 13, 1895.

Entrepreneurship and inventiveness on the part of Southerners advanced the textile industry. In 1896, the U. S. Treasury designed and issued new currency. Great time and artistry were invested in designing $1, $2, and $5 notes that were meant to convey the American message of progress to people living far from those grand American exhibitions. In a neoclassical style, these notes expressed allegorical edicts like "Electricity as the Dominant Force in the World." These aphorisms were sent out across the country, like so many messages in bottles, to the rural and backward sections of the nation that were supposedly missing the fantastical changes technology was causing in their homeland. Small town Southerners needed no reminding. Perhaps it is the remnants of that perception that have caused this period of experimentation and ingenuity in the South to be largely misinterpreted. A more likely alternative is that the rapid industrialization experienced by the regions where textile production was expanding *failed* to usher in an era of unprecedented prosperity divorced from human hardship.

Cash's *mind,* a regionally distinct ethos which he claims had been passed down through the centuries of Southern consciousness, survived Confederate defeat. Cash asserts that the attempt to conquer Southern culture in many ways strengthened it. He writes, "for the achievement of this will, the satisfaction of this obsession, and, what was obviously necessary to the purpose, [was] the setting up again of a world which should be as nearly like the old one the Yankee had

destroyed as humanly possible."[68] Where Cash sees continuity, many others have suggested that the demise of the Confederacy created an incommensurable dilemma for Southern culture. Trying to reconcile Old South notions of honor, righteousness, and belief in an invincible Southern nation with the facts of surrender caused a break with old institutions and values. It was this climate that spurred the rhetoric of the Redeemers, New South advocates, and the vehement promoters of the Lost Cause. As Gaines Foster observes,

> In the public commendation of the Confederate cause and its soldiers, veterans and other Southerners found relief from the lingering fear that defeat had somehow dishonored them. At the same time, the rituals and rhetoric of the celebration offered a memory of personal sacrifice and a model of social order that met the needs of a society experiencing rapid change and disorder.[69]

While the Civil War was a tragedy in the Southern *mind* to be sure, it is not altogether different from the experience of the United States in the early years of the 20th century.

Populism had fizzled, leaving many of the complaints of farmers and manufacturing workers unaddressed. While the South continued to emphasize local community relationships, many of the nation's small towns and cities were stretched along growing freight and passenger rails that brought the raw materials that fueled local industry and swept away the products just as quickly. Despite these changes taking place in America, miraculous technological developments (in the

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[68] Cash, 106.
[69] Gaines M. Foster, *Ghosts of the Confederacy: Defeat, the Lost Cause, and the Emergence of the New South* (New York: Oxford University Press, 1987), 6.

form of electric lights, transit, telephones, automobiles, and airplanes) were clicking, whirring, luminous examples of progress that were prominently placed before the eyes of Americans. The world's fairs marketed the renewal that would take place in the wake of these new contrivances, and it was in this way that America was sold on dreams of its own ascendency, on the belief that technological progress would filter into every aspect of human society, uplifting people from the weaknesses of their own condition.

In the rush to make sure the South was not left out of a Northern technological awakening, Southerners labored to integrate new technology into a Southern vision of what the future held. Wealth, prosperity, and prestige were imperative for a culture that had felt the contempt of its Northern neighbors in its adherence to slavery, and the South experienced a familiar mocking sting in the accounts of those Northern travel writers who returned home and recalled the South as woefully stagnant. In their zeal to seize hold of progress, small Southern communities looked inward to develop a manufacturing economy centered around the rapidly changing mills, but rather than liberate them from hardship and Northern criticism, the mills created a cycle of a labor abuses and class conflict that would trap many poor Southern families for decades. With new demands for cheap labor, the mills lured in thousands of agricultural workers from the surrounding countryside. Farmers in a modernizing economy faced a dilemma summarized by an *Intelligencer* article from 1894.

> There is now, as well as for several years past, a spirit of discontent and restlessness among our farmers caused by a lack of prosperity. A casting about for some change more profitable; something that will give more ready money than the farm, with its short crops and shorter prices, and the little demand for the little that is to sell from the farm. There are only two courses open to us. The one to leave the farm and to the town and seek a better paying business. The other is to stick to the farm and change methods, and add new lines and more intelligent methods until the farm will pay.[70]

Already new technology was reshaping Southern life in dramatic ways. Rural migrants abandoned agriculture, the Old South seat of integrity and pastoral virtue, and moved to town. Manufacturers, faced with the need to house this new workforce close to the growing mills, constructed mill villages.

Villages varied from county to county and from mill to mill, but the image of small, uniform houses is ubiquitous to the industrial housing complexes of the late 19th and early 20th centuries. During this period, few amenities were provided for mill workers. Many villages lacked schools and public services. One of the most influential incentives to relocate to the mill village, other than an end to fieldwork, was the widespread provision of electric power produced by the mill generators and supplied to village homes. In the same way that light displays enticed visitors up and down the Midway of the White City, electric lights and some early electric appliances signaled a place within the flow of technological progress to poor laborers leaving the farm. One historian relates,

> A few considered the differences between mills and villages mere window-dressing. Most, however, dwelt upon what distinguished one mill complex from another. The result was an informal hierarchy of mill-and-village rankings, a specialized language of place (….) If one wanted a quiet place to raise children, one might choose Inman Mills, whose owner's sought to cultivate a family atmosphere. If one wanted to retail

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[70] Anderson *Intelligencer*, February 21, 1894.

> moonshine, one might choose Fairmont, where governing strictures were notoriously lax. And if one wanted the best of all possible material conditions, one might leave Spartanburg entirely for a place like Matthews mill village in Greenwood, of which mill workers across South Carolina spoke incredulously, "They have brick homes. . . . and electric ranges in their kitchens."[71]

The promise of comfort and ease would prove illusory. The physical hardship mill workers endured looked much the same under electric lights as it had under the glow of gas or pitch. And also, growing divisions between the mill workers and the merchant class occupying the small nearby towns created a climate of class antagonism. Townspeople saw the mill workers as living, breathing reminders of Yankee-made stereotypes, as affirmations of Southern backwardness. This, combined with the abusive paternalism of mill owners, would eventually lead to the Southern Progressive movement. In the 1890s however, the promises of electric power and the remarkable willingness of Southern innovators to experiment had relatively little impact on the life of mill workers, who were aware of but largely outside the rhetoric of technology-fueled prosperity.

Conflict between mill workers and mill owners in the new textile industry is a longer discussion than what is appropriate here. The strain and abuses inherent in this relationship wouldn't peak until the 1930s. That said, there is some striking contrast between the vision and inventiveness of early industrial innovators and the lack of compassion shown toward the captive communities of textile workers. One of the most prominent figures in the development of South Carolina's mills was W.

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[71] G. C. Waldrep III, *Southern Workers and the Search for Community, Spartanburg County, South Carolina* (Urbana: University of Illinois Press, 2000), 15.

B. Smith Whaley who, as early as 1892, began scouting the region around Columbia for potential mill sites that could take advantage of hydroelectric power. A native of Charleston, Whaley had graduated from Cornell University in 1888 and gone to work for a Rhode Island architectural and engineering firm as a textile mill engineer. One historian relates that "one of the keys to his phenomenal success was not only his talent as an engineer, but as a proponent for industrial expansion and innovation; he was an enthusiastic spokesman for South Carolina's potential in textiles."[72] Whaley designed the Union Cotton Mill, which opened in 1894, the first of twenty constructions he would supervise over the next decade. For the Courtenay Manufacturing Company, Whaley designed and built a water-powered mill in Newry, South Carolina that contained 10,000 spindles (1894-95), but this would pale in comparison to the mills he conceived towards the end of the decade, mills that would lead the South and the world in size and complexity.

In the mid 1890s, Whaley began designing and operating his own facilities around Columbia. Richland (1895) and Granby (1897) Mills contained a combined 28,000 spindles.[73] In 1898, he completed a second mill commission in Union. Union Cotton Mill #2 contained 75,000 spindles, a testament to the rapid industrial expansion the state was experiencing. Whaley and the directors of Granby and Richland began planning another Columbia mill in 1899 that *The State* would call

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[72] J. Tracy Power, "The Brightest of the Lot: W. B. Smith Whaley and the Rise of the South Carolina Textile Industry, 1893-1903" *The South Carolina Historical Magazine* (Vol. 93, No. 2, April 1992): 128.
[73] Power, 129.

"the greatest single mill in the South."[74] The Olympia Mill would contain 2,400 looms and 104,000 spindles, but more important than its size were the innovative ways the form of the mill had to be adjusted for electricity. For decades, steam power had been provided by large, immensely heavy engines placed in central locations and connected to all of the various looms and machines by heavy shafts and belts. Whaley's Richland Mill had been built on this model in 1895. By 1897, electricity had come far enough to be incorporated into his Granby design, one in which current was generated a mile away at the decades old Columbia Canal, filtered through a series of transformers and out to eight motors which powered the mill's lights and machinery. Olympia offered a whole new set of challenges that would test the limits of Whaley's ingenuity. The four stories created limits to the amount of weight the structure could support, an immediate deterrent to adopting the heavy, steam-driven millwork. However, the Columbia Canal had also proven an unreliable source of hydroelectric power for the Granby Mill. Whaley commissioned General Electric for three enormous DC steam dynamos and designed a new electric drive system that would disperse the steam-generated current throughout the mill. The motors were arranged and suspended from the mill ceiling, each with its own battery of dedicated machinery to which it supplied power.

Some attention should be paid the effect these changes had on the workers' perception of mill work. It is an interesting exercise to reflect on the way these new

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[74] Power, 130.

machines and the force that operated them were perceived. Steam power, employed in factories throughout the late 18th and 19th centuries, had developed a comfortable relationship with the modern industrial worker. The way energy was dispersed through textile mills was not altogether dissimilar from the way waterwheels and windmills were arranged to grind corn or spin yarn. Belts, shafts, and pulleys dominated the factory landscape and even to a mind lacking any engineering training, these systems made sense. Untrained eyes could follow the flow of motion from one cog to another and peer into the inner workings of the most advanced technology of the age. Historians have reflected on the changes brought on by the advent of electricity. Oscar Handlin writes about this shift.

> The most striking indication of the transformation was visual. In the factories built in 1900, the drive shafts and the pulleys were no longer visible. Power was transmitted through wires and tubes - often hidden - and the whole was covered up and shielded so that the machine gave the appearance of being self-contained and autonomous. The onlooker no longer saw a comprehensible apparatus; he saw an enclosed shape actuated by a hidden source of power from which the products flowed by an occult process.[75]

Handlin may overstate the uneasiness this feature of modernization caused in the mind of the worker, but there is something to the idea that much of the technology workers encountered was suddenly relegated to the realm of magic. Particularly electricity, which had always been something of "a mysterious force, somehow confused with galvanic magnetism, somehow related to the secret of life,"[76] would provide the motive force behind a world which the late 19th century mill worker

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[75] Oscar Handlin, "Science and Technology in Popular Culture", *Science and Culture: A Study of Cohesive and Disjunctive Forces*, Ed. Gerald Holton (Boston: Houghton Mifflin, 1965), 194.
[76] Ibid, 195.

would have been ill-equipped to understand. Reactions would have ranged from ambivalence to fear to the hopeful bewilderment of a world's fair, but the relationship between industrial laborers and their work would have undergone changes. Whaley's motors still dispersed energy through belts and shafts to their dedicated machines, and mill electrification in Columbia was an interesting hybrid of old, familiar patterns and the new manufacturing landscape. With the developments that followed, the strengthening atmospheres of paternalism and social inequality, it is doubtful whether many of these changes came with an increased sense of optimism for an electric, prosperous future among workers.

The Olympia mill was a wonder of the New South. Its three GE generators were more than powerful enough to light and power the immense structure. The current generated at Olympia was used to power the Richland and Granby Mills as well as adapted to provide electricity to Columbia's homes, streetlights, and electric railways. *The State* reported the construction of the mill "as being spoken of by most Southern manufacturers as an 'experiment', but Mr. Whaley declines to regard it as such; it is, according to him, the application of varied experiences and results carefully worked out therefrom."[77] Whaley's assertions went largely unheeded. The novel application of electric power to what was in 1900 the largest textile mill in the world generated widespread press. Moreover, the high architectural standards that

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[77] *The State*, November 21, 1900.

Whaley applied to his mill designs was, in the case of Olympia, cause for much Northern head-scratching. Terracotta tiles, marble wainscoting, mosaic floors, nickel and porcelain fixtures were employed in a setting renowned for its dusty drudgery. These trappings, most notably its matching red-brick bell and clock towers, did little to conceal the conflict between the mill directors, led by Whaley, and his army of workers. After the mill opened in 1900, it wasn't long before the National Union of Textile Workers turned its eye on the infamous Olympia Mill.

Long working hours, low wages, poor safety regulations, and the prevalence of child labor were the complaints that the Union, backed by local supporters, wished to see addressed on Labor Day in 1900. Recalled one mill worker,

> My family came down from a farm in the Dutch Fork section of Richland and Lexington counties. We lived on a farm so poor it would grow nothing but rocks, my daddy cut cord wood on the side to buy food. He had heard about the mills opening in Columbia and one day he just decided to load all of our belongings and us onto the wagon and come to Columbia. He drove that old wagon onto the ferry at the Broad river and crossed. We came straight to the Granby Mill Village in 1898 and went to the mill to get a job. I was 8 years old and worked in the Granby Mill until the Olympia Mill opened and then went to work there. We got one of those nice new houses on Fifth Street. I was an experienced worker when I reached twelve years of age and could run eight sides.[78]

The union measures went largely ignored by Columbia mill owners. Whaley was particularly outspoken against union interference in mill operations, though he and the other directors of Olympia promised to increase the number of services available in the mill village after the demonstration of 1900. These promises went largely unfulfilled and with the support of the local press which trumpeted the mills'

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[78] "Olympia Mill and Village: Upper Richland County, South Carolina Historical and Architectural Inventory" (Edwards-Pittman Environmental Inc., 2001), 12.

"perfect system of sewerage, well-built cottages of varied architecture, electric lights in every room (….) and other features as yet unknown to any mill community in the country, including a theater, a hospital, a big department store, a park, etc.," the conflict was downplayed.[79] When, in August 1901, the union returned to lobby for child labor legislation and a national regulatory board, Whaley's hostility reached a peak. Olympia mill workers, union members and nonmembers, organized to join the Labor Day march and go without pay for the day. Whaley responded by demanding that they make up lost time by working the following two Saturdays. When the marchers failed to show up on the first of the two Saturdays, Whaley had them, as well as any others who were known to be sympathetic to the union cause, locked out of the mill on the following Monday. Strikes ensued at Richland, Granby, and Olympia, and many workers left the area forever. Whaley was quoted in *The State* as saying, "we are the owners of our mills and we propose to run them. We do all we can for our help, and propose to do much more. We do not propose however, to have any of this unionism business."[80]

The growing pains of modernization were experienced differently in the South than in the North. While labor movements pursued better living and working conditions for decades in the Northern and Midwestern manufacturing belts, in the South, they met an early demise. The merchant class who supplanted the land-rich planter aristocracy were remarkably adept at subjugating the poor, uneducated,

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[79] *The State*, February 12, 1901.
[80] Power, 135.

rural workforce to the demands of an industrial economy. This often meant manipulating the mill people into ignoring the reforms that in other places, they would have been entitled to. For example, child labor laws in the state advanced slowly and in many cases went unheeded. One account states,

> In 1907, when August Kohn wrote *The Cotton Mills of South* Carolina, two thousand thirty-six people worked in the four Whaley Mills. Of those, officials reported to Kohn that only thirty-two were under the age of twelve, but Kohn notes, "every mill did not freely give the desired data." Kohn reported that of the three hundred fifty children living in the Olympia mill village, only one hundred and forty attended school.[81]

A 1903 law provisioned that no child under the age of ten could work in a factory, mine, or mill. The state increased the minimum age to eleven in 1904 and twelve in 1905, but the schools that were featured so prominently in bulletins meant to attract laborers into the villages were woefully underfunded. The residents of towns like Anderson still saw the condition of the mill villages and the people who inhabited them as a "mill problem," one that the South would invariably have to address if it was to escape Northern criticism. In mills, farms, and towns the changes had been unmistakable. Rapid technological "progress" had generated new class conflicts. It had introduced the South to a new set of modern problems, one that threw sharp light on the cultural costs of modernity.

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This was far from the electric future that Southerners had been promised. The leaders in the New South economy, the middle class in the small textile and tobacco

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[81] "Olympia Mill and Village," 10.

towns, had actively rejected the Northern vision of 20th century life and embraced the possibility of achieving modernity while preserving the values that set it apart from its old foe. Clinging to community and local ownership had fragmented Southern society. Mill people now stood apart from town people to say nothing of the separate spheres occupied by the poor whites who clung to agriculture and the numerous black Southerners who eked out a living where they could find it. The profound optimism that had become hopelessly tangled in the push for technological progress had been repeatedly confounded. Mill workers worked longer hours than they had on the farm for a lifestyle that had not been depicted in the utopian White City exhibits. Electricity had changed the form, the character of Southern life, like it had those grand exhibitions. There was no longer a central, throbbing, steam-powered heart in every mill like there had been at the 1876 Centennial. 1900 was a world of invisible power, conducted by wires and the ethereal, vivifying principles known only to magicians like Tesla, Edison, and peculiar Southerners like Whitner. It was outside the ability of the 19th century mind to comprehend, and while this had been, in the bright colors and festive atmosphere of Atlanta 1895, a source of delight and wonderment, in the Southern mills it was cryptic and alienating. The 20th century was a tragedy, felt acutely by Southerners who had experienced its like before - dashed hopes, frustrated ambitions, and a society that could no more be perfected than the hearts that comprised it.

Part of a Southern paradox that hasn't yet run its course, the Olympia Mill was

converted to high-end apartments and lofts in 2007.

V. *Lights, Schools, and Libraries*

At some point between 1900 and 1904 Walker Wylie removed B. N. Duke's appendix. This meeting would spell a dramatic increase in the development of hydroelectric power in the Upstate. New lights in small towns would spark concerns regarding literacy and education throughout the region.

The success and celebrity of the Anderson Cotton Mill and the Portman Shoals station led the Wylies to explore other applications of hydroelectric power throughout the area. With their company engineer, William Whitner, in tow, the Wylie brothers began developing a site on the Catawba River, six miles from Rock Hill, South Carolina and eighteen from Charlotte. The Catawba Power Company was incorporated in 1900, and William S. Lee, a recent Citadel graduate, was brought on to help plan an unprecedented hydroelectric network of dams along the Catawba-Wateree river basin. Whitner and the Wylies had seen the remarkable potential of hydroelectric power, and with their first-hand knowledge of the applicability of alternating current generators they designed a chain of substations that would electrify a large swath of North and South Carolina. It hadn't been until 1895 that Tesla and George Westinghouse, with backing from John Jacob Astor, J. P. Morgan, and the Vanderbilts, had begun testing high-voltage commercial dynamos on Niagara Falls. A few years later, in a remote corner of the South, Southern business developers that had been scoffed at for their lack of inventiveness began pioneering

a model that the United States would look to over the next century for powering its more sparsely populated regions.

The newly incorporated Catawba Power Company built its first dam at India Hook Shoals (creating the reservoir that would later be dubbed "Lake Wylie"). The huge expense of building dams and running high-tension lines to the surrounding communities demanded new capital. Wylie's fortuitous meeting with Benjamin Newton Duke (the appendectomy had been a success), brother of James Buck Duke, gave him an inroad with other Southern innovators. J. B. Duke had built a monopoly in American Tobacco by utilizing new automated cigarette rollers, a conglomerate that lasted until being dismantled by the Supreme Court in 1911. By the time of their meeting with Wylie, the Dukes were two of the wealthiest men in the country. Hearing that the tycoon brother of one of his former patients was suffering from a sore toe, Wylie approached the other Duke. He became Buck Duke's doctor and began to press on him the potential that the Catawba offered for the generation of electric power. Encouraged by the acclaim generated at Anderson, by the specialized knowledge of Whitner and Wylie gained from their own experiments with AC and the first electrified mills, Duke raised most of the $2 million in capital needed to develop the Catawba chain. The Southern Power Company (later Duke Power) was chartered in 1905. Wylie recalled in 1912,

> The Southern Power Company now has something like 1,300 miles of transmission lines, and besides the hydroelectric development, we have auxiliary steam turbines creating 10,000 horsepower. We have one of the largest hydroelectric developments in the world controlled by one company. We can deliver at the same time for 24-hour use about

> 12,000 horsepower, and would deliver for 10 hours use over 150,000 horsepower. We have on hand sufficient property to at least double the above power, and most of this is on the Catawba.[82]

The Catawba River between Marion, North Carolina and Camden, South Carolina was, by 1912, "the most electrified river in the country."[83] The designs that were employed to light and power the surrounding regions were heavily adapted and developed by Southern engineers under the supervision of Whitner and Lee.

Peter Coclanis and David Carlton remind us of the conventional way of thinking about the South and its "uninventive" path towards modernization.

> It is striking that the South's apparent failure to develop a culture of inventiveness and innovation first appeared as it began to industrialize and urbanize. The modern industrialization of the South can be said to have begun about 1880. It's first major upsurge, however, came in the 1890s, when the Carolinas, Georgia, and Alabama became important textile producers (....) [but] expansion of industry did *not* bring commensurately higher levels of inventiveness and innovation; the technological backwardness of the South, which did not look all that unusual when the region was virtually entirely rural and agricultural, began to look exceptional when it started to develop an "industrial" character.[84]

The fact that the South seemed distant, geographically and culturally, from Broadway, Niagara Falls, Pearl Street, and Menlo Park, is not enough to discount the role Southerners played in the development of electricity. More importantly, it must be recognized that the South had a particular relationship with the technology that would light its streets and power its mills. The mill boom of the 1890s, like the spectacle and whimsy of the World's Fair, had drowned out any concern for the life the South was leaving behind. Carlton also wishes to claim that old institutions did

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[82] Wylie, *Columns*, 11.
[83] Ibid.
[84] Carton and Coclanis, 310.

not recede completely without notice. He writes that "[Southerners] desire for prosperity by no means entailed a taste for the commotion of great cities, but neither did it completely preclude the sense that a major economic departure would likely have unsettling consequences on their familiar social order."[85] These *preclusions* seem to be absent from the conversation concerning electricity and modern mills in Anderson and the Atlanta midway. Concerns do arise around issues such as child labor and low mill wages, but in no way do these comprise a critique of the South's chosen course. Inventiveness, civic zeal, and the competition for new levels of prosperity made the South blind to eventual social perils.

It's not clear for Carlton and Coclanis whether lagging education is a cause or a symptom of an "uninventive culture." It's true that, in the wake of Reconstruction, the Redeemers clung tightly to public funds, limiting the development of civic and state services. Roads across the South were in a poor state. In the late 1890s, a combination of factors (concerns over child labor, the expansion of community services, middle class preoccupation with the perennial "mill problem") led many Southern communities to develop compulsory public education programs. A Massachusetts textile magnate touring the Southern mills remarked on some of the Southern innovations and characteristics that made it favorable to further mill expansion. In 1895, the Charleston *News & Courier* wrote,

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[85] David Carlton, *Mill and Town in South Carolina, 1880-1920* (Baton Rouge: Louisiana State University Press, 1982), 82-83.

> Upon one point Mr. Lincoln's testimony as reported, was not so favorable to us. "I regretted," he says, "to see so many children at work in the mills who ought to be in school." (….) He might, of course, and very properly, have regretted to see *any* children in the mills; but whether he found that there are more children in Southern mills, generally, who ought to be in school than there are in Northern mills of the same capacity, is left in doubt.[86]

This Southern writer bristled at the implication that his region was in 1895 impeachable on the basis of child labor concerns. Like its uphill journey toward modernization, the South would face its own particular challenges, with or without outside approval. The issue of children being widely employed in the textile industry shows how the South had strayed into unfamiliar social territory, namely how new technology had warped Southern culture. The same article reflects the unforeseen ways Southern society had been divided. "The fact that the much vaunted new system is held to be a suitable one for the 'education' of children whose mental horizon will be bounded for life by the walls and work of a cotton mill affords strong presumption that it is not particularly suited for the education of any other class."[87] Carlton arrives at it in the end.

> They (South Carolinians) felt little necessity to be rigorous in their discussion of the social consequences of industrialization, because in the end they failed to see any great problem. They were convinced that the state could avoid the trials faced by England and the North, even though that conviction was based on little more than sectional and racial vanity. Far from attempting to control the future of their society with social planning, middle-class South Carolinians allowed themselves to be lulled into complacency by assurances that the superiority of the Southern racial stock and Southern mores made concern for the future of the state unnecessary.[88]

Whatever the source of these assurances, it is clear that Southern leaders, New South boosters, mill operators, and local investors ignored the examples set by

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[86] Charleston *News & Courier*, May 1, 1895.
[87] Ibid.
[88] Carlton, *Mill and Town*, 127.

other regions experiencing technological revolutions. Based on the sanguine newspaper accounts of Southern progress, it seems more likely Southern reformers were oblivious to the change electricity and modern mills *could* exert on Southern life. The New South had experienced changes that placed Southern children in dangerous, manufacturing jobs and limited the availability of education to the new industrial caste. Technology had been naively greeted as neutral, throughout.

In addition, the 1890s saw increased state and private funding for the textile-rich region's land-grant colleges. Teaching scientific agriculture and mechanical disciplines, particularly within the structure of Southern tradition and values, was seen as yet another way the South could transcend Northern criticism. One historian writes about the New South creed of modernization and new industry.

> In this anticolonial crusade education played a secondary, but important, role. New South boosters and their Bourbon Democratic allies opposed large state expenditures for schools, or for anything else. (….) Nevertheless, some of the New South advocates, including Atlantan Henry Grady, called for a new kind of *technical* education in the region that would provide Southern youths with the expertise to manage the region's industrial expansion.[89]

Schools were founded across the South during the 1880s and 1890s, many with a pronounced emphasis on new technological disciplines. Engineers were crucial to the plan of reformers to expand commercially in new and innovative ways. In 1895, the Atlanta *Constitution* wrote about the upcoming term at Georgia Tech (founded 1885).

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[89] James E. Brittain and Robert C. McMath, "Engineers and the New South Creed: The Formation and Early Development of Georgia Tech," *Technology and Culture* 18 (April 1977): 179-180.

> With the addition of the electrical department to the other many other complete departments the scholars will have the advantage of learning the secret of that great power. The department will in all probability, be the most popular one in the school. The professor of this department has a thorough knowledge of this wonderful power, and is one of the best instructors in this part of the country.[90]

Electricity was powerful, wonderful, and thoroughly necessary to modernize the South. Again, no concerns are raised for the potential side-effects of flying headlong into an electrically-lit, dynamo-driven way of life.

Wolfgang Schivelbusch, the authority on the cultural history of man-made light sources, writes In *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*, "the newer a culture is, the more it fears nightfall."[91] Whether we side with Cash who saw Southern culture as an old artifice, something traceable back to Anglo-Irish sensibilities of the 16th and 17th centuries, or as a recent invention, one forged in the identity crisis of Confederate defeat, the gusto with which Southerners employed electric lighting in their towns and cities was vigorous, and the changes electric light caused were profuse. Interior colors looked different, reflections shifted, and the hearth was no longer the physical and ideological center of the Southern home (a development that wouldn't be corrected until the advent of television). Reflecting on these subtle changes is important in any account that strives to give technology its due credit. The cultural efficacy of electricity is

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[90] Atlanta *Constitution*, September 10, 1895.
[91] Wolfgang Schivelbusch, *Disenchanted Night: The Industrialization of Light in the Nineteenth Century* (Berkeley: University of California Press, 1988), 81.

momentous, and lights generate many of the changes that would later define the New South as a time of conflicted growth.

The introduction of electric lights in the South took place over a prolonged period beginning in the 1880s. Like the early experiments with electric power, Southern innovators saw the immediate potential of incandescent bulbs for use in textile mills, where lighting systems had been the cause of devastating fires in the past. The Augusta *Chronicle* reported in 1882, "so safe is this system that a drop light can be used about in the lint of the mill and the sawdust of the workshop without danger."[92] The advantages over gas lighting were obvious. Incandescent bulbs reduced the risk of fire, they didn't produce dangerous fumes in enclosed interiors, and they generated much less heat, a feature of gas that had plagued theater-goers and drawing room occupants in buildings with poor ventilation. The miraculous ability to conjure safe, steady light was clearest to the clerks, teachers, and writers of the period, who spent the bulk of their evenings hunched in clouds of poisonous vapor, writing and reading by the wavering glow of temperamental lamps. Edgar Allan Poe wrote that gas lighting was "totally inadmissible within doors," that "its harsh and unsteady light offends."[93] A slight improvement over gas was the electric arc lights that used high voltages to induce a current between two exposed carbon rods. These had been employed as outdoor lighting since midcentury, but the harsh, blinding light produced by the arc lamps made them unsuitable for use in homes.

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[92] Nye, 191.
[93] Schivelbusch, 157.

The story of the first practical electric light doesn't begin and end with Thomas Edison. Gradual developments, first with arc lighting and later with gas-filled incandescent bulbs, took place throughout the 19th century. Edison's patent in 1879 was the event that set off further developments in incandescent technology and led to widespread adoption of increasingly practical light systems, first outdoors on city streets and then moving into the parlors, courthouses, and theaters of American towns and cities. One Southerner returning to Charleston after years of absence remarked on the transformative effect of electric lighting on Charleston streets.

> We can't afford to visit your (our) old city often, and when we do it is as a stranger would. Old things are measurable passing away and new replacing them in spite of the croakers (….) Coming in at night we were dazed with the electric lighting. It is beautiful, flashing up the fine store fronts, blazing the cheerful home windows and making night day.[94]

This notion of turning night into day is featured prominently in the reactions to new electric lights in America. It was seen as a noted victory in man's struggle against nature, making night spaces suddenly available for work or leisure.

The effect this had on American reading habits was pronounced. Schools, libraries, and literary societies sprang up after electric lights made time spent reading a more prominent, more enjoyable component of American evenings. David Nye reflects on the effect electric lights had on reading habits in Muncie, Indiana.

> At home, a young child who could not be trusted to regulate gas lighting could be left alone with electric light, increasing the child's control over the visual environment and

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[94] Charleston *News & Courier*, May 5, 1895.

> encouraging reading in private. Partly for this reason, the library loaned out eight times as many books per inhabitant in 1925 than it had in 1890.[95]

Proving that increased literacy is a side effect of electric lighting is difficult, but there is some suggestion that a modern South looked strange to reformers alongside a large population without access to schools. Rural schools were rare, often requiring students to travel many miles to attend. In the mill villages, schools were an enticement for rural parents to relocate, but were woefully underfunded and understaffed. The electrification of Southern towns coincided with the emergence of the region's public education system. Schools were touted as the most effective means of combating the mill and farm problems. For merchants, doctors, lawyers, and mill managers living in towns like Anderson it was an uncomfortable reminder of Northern jibes to be surrounded by large, poor, uneducated populations in the mill villages and tenant farms. Establishing schools became one of the chief concerns of Southern Progressives and reflected the new role education would have in the New South as well as the increased emphasis on literacy in electrically lit towns.

Anderson's first public school, equipped with electric lights, opened in 1896 on Market and Tolly Street. Gradually, rural schools would follow throughout the county, though these were largely beholden to the demands of the cotton crop. The South Carolina State Constitution of 1895 provided that blacks have access to separate but equal school facilities, though this was possibly ignored to the greatest extent in the textile belt. Writes one historian,

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[95] Nye, 17.

> The education of blacks was further impaired by the practice of opening the rural schools, where most blacks attended, early, when the cultivation of the cotton crop was completed and the crop "laid by," and closing them when cotton picking began. The schools were reopened when the picking of the cotton crop was completed, subject to being closed again in the spring if young hands were needed in the fields. "Lay by" schools, as they were called did not demand excellence in faculty or facilities, and did not get either.[96]

The mill village schools were equally deplorable. Particularly before child labor legislation entered the public eye, village school facilities, though advertised as one of the perks of relocating from the farm, were poor and, in many cases, not widely attended. In some villages, compulsory attendance policies stretched the limited investment mill owners were willing to make in its public services. Schools that served both mill and town children had higher student-to-teacher ratios than those serving town children only. David Carleton writes,

> Although the towns of South Carolina were suffering from growing pains at the turn of the century, they were handling their school problems far more efficiently than were the benevolent despots of the mills. The mill schools sometimes handled their overcrowding problems by instituting shifts (….) Furthermore, the large numbers of pupils presented perhaps the least of the mill teacher's burdens, compared to such problems as indifference or hostility in the community, absenteeism, insubordination, and interference from mill officials.[97]

Even after labor laws were passed, the close-knit nature of mill communities and the repressive paternalism of mill operators caused truancy laws to go largely unheeded. On the farm, rural education would lag far behind town standards, as would the provision of basic services like electric lights and refrigeration far into the 20th century. The differences between town and farm life had never been so significant. Town children, sons and daughters of middle class Southerners, had

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[96] Watkins, 63
[97] Carlton, *Mill and Town*, 101.

access to electrified schoolhouses and libraries, fueling the differences between rich and poor, educated and uneducated.

In 1900, the Anderson Library Association was formed. The first public library occupied a room in City Hall off South Main Street, which had been fitted with electric lights after the success at High Shoals. The effort to establish a public library and procure the $10 a month appropriation from the city council had been spearheaded by the Women's Christian Temperance Union.[98] Historians have speculated that women's organization like this were the greatest proponents of the Lost Cause in the late 19th century South. Temperance Unions and Sunday Clubs shared membership with the Daughters of the Confederacy and other memorial organization that protected the myth of the war. Incidentally, these organizations were also crucial to the rise of public education in the South. When not serving directly as teachers, curriculum was driven to reflect those essential New South creeds, tenets that reinforced what Cash called a "proto-dorian bond" of Southern conviction and white hegemony. Incidentally, public schools did this by clinging to an old model rather than creating schools that focused exclusively on increasingly important mechanical skills. Wayne Urban writes,

> We might say that this version of New South education, like much New South activity in other realms, resembled the Old South approach as much as it did that of the East and the West. It produced a finished product that grafted the new subjects onto the curriculum of the past rather than replacing the old with the new. The end product,

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[98] Dickson, 169.

> however, had more of the flavor of the old studies than it did of the highly differentiated vocationalism that was developing elsewhere.[99]

A juxtaposition of Old South interpretations and new electrical, technological knowledge is a strikingly appropriate image of the New South in microcosm.

In a rare instance Anderson library planners looked north for the capital needed to erect their own building. In 1904, Mrs. G. E. Prince, head of the library association, contacted Andrew Carnegie for funds. Carnegie's library funding program was prolific. By 1919, his contributions to towns and universities had paid for a full half of all library construction in the nation. Carnegie committed $10,000 to the project, stipulating that the city would purchase a site and provide $1,000 per year for operations. The association continued to petition Carnegie for more funds, citing Anderson's storied experience with electricity and the population boom caused by the new mills (by 1907, the population of the city had grown to 15,000).[100] Carnegie settled with the planners to contribute $17,500. This, combined with a $10,000 donation from Anderson resident Col. Joseph N. Brown met the library's construction costs minus an additional $1,300 that Carnegie supplied to cover overages. On February 27, 1908, over two hundred people registered for library cards. At the time, you would have had to travel as far as Atlanta or the university in Columbia to find a comparable facility. Atlanta's public library, one of

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[99] Wayne J. Urban, "Educational Reform in a New South City: Atlanta 1890-1925," *Education and the Rise of the New South*, Ed. R. K. Goodenow and A. O. White (Boston: G. K. Hall & Co., 1981), 117.
[100] Dickson, 170.

the first in the country, had only been completed with Carnegie funds in 1902. The Anderson Library, built next to the new post office on the corner of North Main and Federal, was a marker of a modern, Southern community.

In 1909, President Taft called Anderson "the Lowell of the South," something he suggested was "a high compliment to Lowell."[101] The civic zeal that had generated local investment defies a historical picture of Southern industry as entirely beholden to Northern beneficence. The crucial part Southern innovators played in the well-documented competition between direct and alternating current contradicts Carlton's depiction of an uninventive culture. An understanding of Southern modernization as being a uniform, slower version of the Northern model is mistaken as well. Southern entrepreneurs developed culture-shaking means of lighting Southern towns and powering the mills. Attitudes toward this endeavor were positive, and remained so among Southern business leaders as *new* social problems arose. Child labor, poor and dangerous working conditions, communities fractured along labor, race, and economic lines - these were issues brought on by new technology. Under electric lights, Southern culture looked different. James C. Cobb writes,

> The experience of the American South demonstrates that the process of modernization is never precisely the same from one context to another (even on the same continent and, beyond that, within the same nation). It likewise suggests that rather than a simple fight-to-the-death, winner-take-all slugfest, the interaction between what we call

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[101] Watkins, 66.

> "tradition" and what we call "modernity" may take on a variety of shapes and yield a variety of outcomes.[102]

We don't have to trace Southern identity or *mind* back to the dawn of man to see the relationship it shares with modernity. For many historians Southern character is undeniably distinct. We can see distinctiveness in the visceral way towns like Anderson pursued modernity from within, reshaping the Southern landscape to confound Northern critics who would call it backward and stagnant. And this all would have left an Anderson resident by the end of the first decade of the 20th century feeling very proud of the efforts of his neighbors. No one seems to remember when it appeared or who erected the six-foot-high, electrically-lit sign on the roof of the building opposite the new courthouse. It read "Anderson Is My Town" and stood for years before disappearing just as mysteriously. Poverty, prejudice, illiteracy, labor unrest, political disenfranchisement - these existed within the same culture that lauded Whitner's High Shoals experiment and took pride in Taft's acclaim. Cash suggested that the typical Southerner was driven by a *hedonistic*, *romantic* impulse. Maybe this contributes to the faith that the South placed in electricity, in community, and in education. For whatever reason, the South had been vain in the steps it had made towards proving Northern critics wrong. Modernity and prosperity had failed to converge. Concludes Wilbur J. Cash,

> With the factory we shall make the South rich. And winning the riches, we shall be able to fully develop the school. And with the school, we shall not only set up a potent guarantee that white men shall not sink into equality with the black, we shall also trains our sons, and those of the commoners as well, to take advantage of opportunities

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[102] Cobb, 192.

> afforded by industrial growth and its commercial opportunities (….) With the factory and the school, in fine, we shall finally conquer the frontier left us by the Yankee, complete the victory we hold so precariously on the political side, and establish the South on an impregnable base.[103]

The degree to which these ambitions would fail wasn't yet clear to the comfortable, merchant class of South Carolina's small cities. To black Americans, mill workers, and tenant farmers, the words remained empty.

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[103] Cash, 175.

VI. *Electric Rails and The Great White Way*

In December 1901 a flood destroyed the dam on Portman Shoals. For the first time in years, the streets of Anderson went dark. One historian writes, "all machinery - from the big wheels of the Anderson Cotton Mills to the sausage grinder of the butcher shop - ceased turning, as homes and the public buildings resorted to lamp light."[104] It would have been an odd experience, to have expended vast effort and resources attempting to merge the Old South with a new, Southern understanding of modernity, only to be thrust back into a world most Southerners thought had been left behind. Observed the Anderson *Intelligencer,*

> The people of Anderson are passing through one of the greatest calamities which has ever confronted them. Sunday night last, at eleven o'clock, the electric current which lights the entire city ceased suddenly to flow and as suddenly darkness "reigned supreme."[105]

Removing one dimension of *progress*, perhaps, brought into focus the ways that Anderson and the South had not lived up to the vision of Henry Grady or W. Y. Atkinson. It took an act of nature to convince the people of Anderson that electricity paired with Southern character was not an infallible combination. The *Intelligencer* had waxed romantic about the Portman station only months before the disaster.

> Great is electricity! And Julius Caesar, perhaps it was who, while struggling for the first emporship at Rome, said while passing through a small village in the Alps: "I had rather be the first man in this place than the second at Rome." So it is with the electric

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[104] Dickson, 158.
[105] Anderson *Intelligencer*, January 1, 1902.

> company; since they must perforce be degrees beneath first in the matter of famous construction, they will in this little village of Portman by emperors in power that is not second throughout the world.[106]

If Schivelbusch is right, if young cultures have a greater fear of nightfall, then the anxious scramble for candles and lamp oil in the storm of 1901 bespeaks the nagging suspicion that the South was up to something new. The mélange of new invention and old institutions had somehow broken with the Old South it claimed to be preserving. The New South prophecies looked more like myths, like shadows without the steady light supplied by the local generators.

When the dam repairs were completed in September 1902, the power generated was more than the Anderson Power Company had subscriptions for. The city opted to install electric streetcars, a time-tested method of turning a profit from excess current. Streetcar use tended to peak during the day when commuter traffic was high. This coincided with lulls in the power demands of homes and businesses, allowing substations to supply load to customers throughout the day and night. In 1904, the Anderson Traction Company was spun off of Anderson Water, Light, and Power and signed a contract with the city to install six miles of electrified rail. The first routes began operating in February of 1905, running through most of downtown and out to the Orr Cotton Mill. The first track extension, completed in

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[106] Anderson *Intelligencer*, October 16, 1901.

1907, extended the commuter line to Gluck Mills, more than two miles from the city courthouse.[107]

In many American cities, streetcars were old hat. The high demand for public transportation had led early traction companies, before the advent of electricity, to utilize horses, mules, and later steam to move passenger cars in growing urban areas. Experiments with electric rails took place as early as the 1840s, but due to various design limitations (the weight and range of batteries, ineffective early motors, etc.) electric streetcars weren't extensively developed until after the further development of electric dynamos.[108] Edison installed an experimental trolley line at Menlo Park in 1882. In the South, electric streetcars, utilizing experimental designs, were installed by the Belgian innovator, Charles Van Depoele, in New Orleans for the 1884 World's Fair and in Montgomery, Alabama in 1886. The first conclusive tests of a practical, efficient electric rail system took place in 1887 in Richmond, Virginia. Frank J. Sprague secured his motor to suspension springs located near the rear axle and transmitted direct current through overhead wires hung from poles. His model was a dramatic improvement over the designs of competitors, leading Thomas Edison to buy out Sprague's patents.[109] It was Sprague's design that was employed in Anderson in 1904.

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[107] Watkins, 64.
[108] Nye, 85-86.
[109] Ibid, 88.

Streetcars began to dramatically shift urban landscapes across the country. Many cities, though possessing abundant capital from private investors, suffered from a lack of specialized individuals with the engineering expertise to install and operate the streetcar lines, something Anderson had never wanted for. David Nye warns of underestimating the cultural impact of these machines.

> Just as the electric light for too long has been understood merely in terms of its practicality, so too electric traction has been studied primarily as a form of transportation, without recognizing that it also became a vehicle of political ideologies, or seeing that it altered the city's image, and together with spectacular lighting was involved in turning the urban landscape into a spectacle. A machine's social reality is constructed, and emerges not only through its use as a functional device, but also through its being experienced as part of many human situations which collectively define its meaning.[110]

Ushering in changes ranging from the emergence of leisure activities on Sundays to urban sprawl, streetcars reordered Southern life in the growing cities. Greenville, Columbia, and Charleston had created electric traction companies as customers for their own surplus hydroelectric power by the time Anderson rails began running. When the clacking omnibuses had already lost their novelty in New York, streetcars were altering Southern life in dramatic ways.

After a few years of successful operation, the Anderson Traction Company decided to extend its service, via an interurban rail, to the town of Belton, twelve miles away. Southerners making the trip would have had access to a novel experience of the Carolina countryside, one shared with their neighbors in the new environment created by the streetcar interior. This new physical space demanded

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[110] Nye, 85.

the crafting influence of New South identity. Electric interurban rails further contributed to the dislocating symptoms of American modernization in the South. While communities had drawn tighter around the other vestiges of a 20th century, industrial character (the mills, the streetlights, the dynamos, etc.), electric rails cut across close-knit towns, drawing suburban distinctions. Likewise, interurban rails lured the community outward. Cheap, accessible travel across the South, which would only become more widely available over the following years, began to deemphasize locality, town and community relationships. A wider arena for public acclaim and validation was being opened to the Southerner, one that equated wealth with virtue, fame with courage. Suddenly, uplifting the South was less important than finding a place for Southern culture out there, in a world where electric trains, automobiles, and airplanes meant one was never more than a short trip away. Charting the effects of something like the early 20th century reordering of time and space on something as complex and seemingly ephemeral as Southern *mind*, identity, or culture is clearly difficult, but the tremulous relationship between Southern life and these technologies reflects the danger in ignoring technology's potential to shape the cultural climate.

The clearest expression of this potential relative to electric streetcars is how this space was partitioned between white and black passengers. C. Vann Woodward claimed that it was the segregation policies emerging in the 1890s that began the tradition Jim Crow in the South. After a period of uncertainty of what roles black

Americans would play in Southern society, the South began to take political measures to restrict blacks from partaking fully in the mixed benefits of industrialization. “Separate but equal” statutes concerning schools and public services, combined with the historical prejudices of many Southerners, left African Americans to languish on the sidelines of the South’s conflicted battle with modernity. The “Great White Way” of electric streetlights and storefronts was a white entitlement in a modern future, a future in which most blacks felt unwelcome. Other modern edifices, like the mill villages of the Upstate and Columbia, were divided along racial lines in the rare instances where blacks could find mill employment. In these cases, black workers were always allocated less in terms of wage earnings and accommodations. The fruits of modernization, perceived as having been won by white hands, were not to be shared.

A Georgia state law, passed in 1891, stipulated that blacks and whites must be separated on streetcars. With the emergence of interurban lines, this law was later ruled to extend to electric routes as well. Evidence suggests that, for years, in Augusta and Atlanta the law went largely ignored. The limbo created by rapid technological change meant the challenges, physical and economic, that enforcing the law would create were too great to justify the trouble. It was shifting public perceptions and resulting political action that led to increased segregation. A streetcar shooting in Augusta in 1900 and a major race riot in Atlanta in 1906 caused local white customers to begin demanding that the traction companies

enforce the segregation laws, many arguing that companies were obligated to construct separate lines for blacks and white. Conflict followed, much to the widespread frustration of company operators who saw segregation as an economic problem. Jennifer Roback relates one account.

> The Savannah Electric Company of this city is now facing a boycott from the negroes on account of the putting into effect here yesterday of the law providing for the separation of the whites and blacks on streetcars. The action on the part of the company was not voluntary. The city council passed a city ordinance forcing the company to separate the races on the cars.[111]

Segregation proved expensive but necessary for vocal whites in the rapidly deteriorating relationship between black and white city dwellers. What evolved was a system of reserving seats in the front of open cars for whites and rear seats for black passengers, a model that would endure beyond the utility of electric transit.

Segregating streetcars is another case of electricity exerting change on Southern society. The modernizing experience and its expression in transportation technology must take place within the South's peculiar, discordant culture. Electric streetcars created another forum to express caustic racial traditions that were evolving in the new, modern South. Though an undeniable feature of Southern life from before the application of electricity, racial tension was shaped and, in the case of streetcars, intensified by technological progress. The mill villages, streetcar lines, and main streets of towns like Anderson and cities like Atlanta were not the result of homogenous *American* changes of the late 19th century. They were clear expressions

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[111] Jennifer Roback, "The Political Economy of Segregation: The Case of Segregated Streetcars," *The Journal of Economic History* 46, No. 4 (December 1986): 905.

of Southern identity, manifestations of the mutual transformations being undergone by technology and culture. And still, the South welcomed each new technological development with vigor, even as old, treasured ideologies were being remade in light of modern demands.

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By 1908, the Anderson-Belton line was bankrupt and was sold off to Buck Duke and his brother. In 1914, they folded it into the operating lines of the Piedmont and Northern Railroad, the same year they bought the Anderson Water, Light, and Power Company which, nineteen years earlier, had tested AC dynamos at High Shoals.[112] The purchase by Southern Power ensured that the city would never want for electricity. Road improvement projects were planned and new streetlights installed along Main Street. The new lights, with ornate five-globe lampposts, were possibly adapted from popular designs at the Paris Exhibition or one of the increasingly frequent American fairs. Regardless, the transformation was complete. Anderson, in its remote corner of the Carolina upstate had a white way of its own. Southern town life had become paved, well-lit, literate, and profitable.

The Dukes began expanding electric rails throughout South Carolina to take advantage of the surplus of hydroelectric power produced at their substations. William S. Lee, the Andersonian engineer who had helped construct the Portman

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[112] Watkins, 71-72.

Shoals station and had been commissioned by Wylie to plan the Catawba River chain of dams, designed a rail network of 128 route miles that would connect the growing textile cities of the Piedmont.[113] 1,500-volt direct current lines and rails were installed with branches running between Greenwood and Spartanburg, Greenville and Columbia, with a connector attaching to the Belton-Anderson interurban. While further plans for expansion were confounded by lobbying on the part of J. P. Morgan's Southern Railway and the demands of WWI, the South Carolina section of the P & N comprised what one historian called "the most successful, financially, of all intercity electric railway projects in the nation."[114] William Lee, who had spent his childhood building dams on the creeks of Anderson County, would go on to serve as head of the Duke Power Company and president of the Piedmont and Northern Railroad throughout the 1920s until his death in 1934.

The mills that had seemed like islands of Southern modernity in a sea of rural lamplight were connected into a single, industrial machine. Despite the preeminence of Whitner, Lee, Wylie, and the Dukes as Southern industrial innovators, 1915 would mark a period of waning local investment in industry. Many of the mills which had pioneered textile production in the age of electric power began to be sold off to Northern interests. Meanwhile a precipitous juxtaposition had evolved; the South, modern in the industrial trappings of town and mill, had never been more fragmented along economic, political, and racial lines. It had been a more unified,

[113] Dickson, 159.
[114] Ibid.

Southern culture that shared in defeat a half century earlier, but it was hard, in 1915, to find any common ground between the rapidly diverging experiences of blacks and whites, rural and urban. Even Cash, who is famously slow to admit change into his schematic of Southern culture throughout the ages, sees further decay in old notions of *honor* during this period.

> They go about the making of money in dubious ways as boys go about stealing apples - not only without having ever once looked into or perceived but without even guessing the social implications of the case - in the high-hearted sense of being embarked upon capital sport, in the conviction that at most they are breaking the senseless rules of fusty schoolmasters.[115]

To argue that Southern culture demands a distinct understanding of modernization is not the same as suggesting that culture emerges from the process unchanged. What remained of Southern identity in 1915 was a society that emphasized a small slice's ability to escape Northern derogation, its fervent and ineffectual attempts to rehabilitate undesirables (blacks, farmers, and mill workers), and the strange, hypocritical progress that it continued to pursue. Regardless of these shortcomings (and there are many more), a historical picture of modernization in the South that denies cultural distinctiveness or the pronounced, inventive character of Southern innovators misses some crucial features of this process in America. More significantly, history provides a short list of societies that choose to limit technological expansion in favor of protecting cultural values. The history-obsessed South, whose citizens seemed unwilling or unable to dismiss the myths and legacies of their past, was no exception. The rhetoric of the New South, which trumpeted the

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[115] Cash, 229.

virtues inherent in Southern traditions, also fell into the trap of equating social progress with technological advancement. In the case of streetcars, a comfortable relationship between whites and blacks was a pipe dream. Booker T. Washington's "lower your bucket" maxim and the "separate but equal" ideology pursued by many white Southerners were both proven entirely ineffective, and much of the resulting discord can be attributed to a failure to recognize and react to the cultural power of new technology.

VII - *Conclusion, Critiquing Progress*

The South celebrated history. Soldiers who had traveled to Chattanooga for the dedication of the Chickamauga battlefield in 1895 boarded Pullman cars in that city to return south for the Atlanta Exposition. One remarked of the trip by rail, "this beats 1864." Many Atlantans flocked to Kennesaw Mountain twenty miles outside the city to watch Sherman's semaphore man climb the peak from which, in 1864, he had sent the famous message to the besieged Union General Corse, "Hold the fort; I am coming."[116] Southerners appreciated the circularity of it all. Newspapers that glorified the wealth and prosperity symbolized by new mills, new rails, and new power stations in the 1890s also contained lengthy reminisces of Fredericksburg or Shiloh. One taking a reflective stroll through Charleston would have noted the change electric lights had brought to the city, but Fort Sumter was never out of sight. *Both* served, according to one Charleston native, as "auspicious signs of the times."[117] Few Southerners would have denied the changes technology had brought. The night landscape had been altered. The rhythm of the day had become punctuated by mill klaxons and streetcar whistles. But these were never seen as intrusions into what really mattered within Southern society: its virtues, its distinctiveness, and its social relationships. Changes to Southern life passed largely

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[116] Atltanta *Constitution*, September 18, 1895.
[117] Charleston *News & Courier*, May 5, 1895.

unnoticed, and few seemed aware that modernization and new technology had come with a severe cultural cost.

The world's fairs of the late 19th century are evidence of the faith, hope, and blindness that had become wrapped up in the story of technological progress. The Krupp gun exhibit, one of Chicago's most popular in 1893, showcased artillery pieces with a range of fifteen miles. Men, women, and children gawked in wonder at weapons that would, in a few short decades, wreak widespread death and destruction across Europe. Not all of the displays in Chicago or Atlanta would have such sinister consequences, but it is striking that so few stopped to consider what areas of human life, other than war and commerce, new technology might implicate. The spectacular, burlesque character of the fairs framed in a Southern setting, in a place with a particular preoccupation with history and heritage, is odd. The Atlanta Exposition lends no special awareness or concern for how technology might influence Southern culture. The hope for a modern society, one that preserved its familiar institutions, was inevitably vain. Boosters were heedless of the cultural impact of modernization, particularly during the mill boom when wealth and the struggle for textile dominance began to radically reshape Southern life.

Anderson's journey towards modernity was not entirely unique. Though local innovators pioneered the design and application of small-town hydroelectric utilities, the way the enterprise was promoted and funded locally was an emerging pattern in the South. Other textile towns relied on the growing middle class to build

infrastructure, to provide for the prosperity of the community. Newspapers encouraged citizens to invest, muddling business strategy with a new Southern ideology. This "civic zeal" to modernize, coupled with the inventive character of Anderson business leaders and engineers, contributed to the rapid industrialization of the Upstate. More importantly, Anderson was, perhaps, most typical in the way members of the community failed to see the ways their life was being altered. The clamor for more and bigger mills would stratify white society. Already, the New South tenet of preserving Southern character was being drowned out in the race for a stronger economy fueled by technological advancement. On the cutting edge of electric power, concerns for Southern culture were silent.

Mills brought strong returns to the Southerners who had contributed to the modernity cause. Also, widespread attention was being paid to the way the South seemed to be uplifting itself, barreling along the path towards a manufacturing economy that would dwarf any potential rivals in the number of spindles in operation. A cheap, capable labor supply and ready capital - these had replaced the old qualities which had been featured so heavily in the rhetoric of Southern promoters: gentility, elegance, and honor. In Columbia, where innovation allowed mills to reach unprecedented size and complexity, conflict between mill owners and workers arose. The inevitable strain of technological growth had created a rift between mill and town. Town life had quickly diverged from the experience of the

growing body of mill workers, leaving one group to continue blindly reveling in new advancements and the other as victims of progress.

Light would breed enlightenment, but not for everyone. The emergence of schools and libraries in towns like Anderson only served to highlight the widening gap between the white citizens of the towns and white industrial workers in the villages. Mill workers were seen as a problem to be corrected. Light and education had to be *brought* to the working poor by beneficent mill owners and reformers if the South was to be validated, affirmed as fully modern. This division should have called into question the technology that was being widely and profitably integrated into Southern life, but even as new social concerns entered the public eye, in the form of strikes and child labor reform, none stopped to consider these as side effects of new technology. White hegemony, what Cash called a "proto-dorian bond," was purely rhetorical. Mill workers became a separate class entirely as the South entered modernity,

Likewise, the relationship between blacks and whites was evolving. The rhetoric of the New South, which had always been concerned with creating a better future for white Southerners, was confronted with new questions on how much of that future would be shared with Southern blacks. Modern technology, particularly streetcars, created a dilemma. Old prejudices were forced to adjust; they emerged just as pernicious but wholly different from the traditions of an older culture. "Separate but equal" statutes, created to deal with new social shifts, were

themselves quickly proven outdated and ineffective in a new, technologically modern environment. The South had been remade in the wake of its technological choices, and these consequences had been unforeseen by Southern boosters, engineers, middle class investors, and even staunch advocates of Southern identity.

History offers few examples of cultures that exhibit real foresight when it comes to adopting new technology. Societies that choose to limit technological progress in the name of their cultural values and traditions are rare. It would seem reasonable that the New South, a culture with a deep historical consciousness and one that had been widely described as backwards and stagnant, might show some signs of having limited technology to protect a lost Confederate legacy. That being said, an examination of the historical record shows no sign that the South at the dawn of the 20th century paid any particular attention to the changes technology could cause and was causing in Southern culture. Life in the South, something that New South boosters claimed to be protecting, was irrevocably altered in the course of modernization. Social relationships among whites and between whites and blacks changed in the new technological landscape. This study concludes that the New South failed to recognize the cultural efficacy of technology, never perceiving that Southern identity was at risk.

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